valentin DRUCKSYSTEME

APX V

Service Instructions

Quality . Tradition . Innovation

Edition: 12/25

Topicality

Information on the scope of delivery, appearance, performance, dimensions, and weight reflect our knowledge at the time of printing.

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Inhaltsverzeichnis

1 Notes on this Document

1.1 User Notes

This service manual is intended for qualified service and maintenance staff.

This manual contains information about the applicators APX V200/V300/V400.

Information about operation of the print module can be taken from our operating manual.

If a problem arises that cannot be solved with the help of this service instructions, then please contact your responsible dealer.

1.2 Instructions

Basic information and warning references with the corresponding signal words for the danger level are as follows specified in this manual:

DANGER identifies an extraordinarily great and immediate danger which could lead to serious injury or even death.

WARNING identifies a possible danger could lead to serious bodily injury or even death if sufficient precautions are not taken.

WARNING of cutting injuries.
Pay attention that cutting injuries caused by blades, cutting devices or sharp-edged parts are avoided.

WARNING of hand injuries.
Pay attention that hand injuries caused by closing mechanical parts of a machine/equipment are avoided.

WARNING of hot surfaces.
Pay attention so as not to come into contact with hot surfaces.

CAUTION indicates a potentially dangerous situation which could lead to moderate or light bodily injury or damage to property.

NOTICE gives you tips. They make a working sequence easier or draw attention to important working processes.

Gives you tips on protecting the environment.

⇒ Handling instruction

* Optional accessories, special fittings

`Date` Information in the display

1.3 Cross References

Drawings

References to specific items in a figure are marked with letters. They are identified with parentheses in the text, e.g. (A). If no figure number is provided, letters in the text always refer to the graphic directly above the text. If a reference is made to another graphic, the figure number is specified, e.g. (A, in figure 5).

Cross references to chapters and sections

For a cross reference to chapters and sections, the chapter number and page number are specified, e.g. a reference to this section: see chapter 1.3.2, page 35).

References to other documents

References to other documents have the following form: See *'operating manual'*.

2 Safety Instructions

2.1 General Safety Instructions

Workplace and method of working

⇒ Keep the area around the applicator clean during and after maintenance.

⇒ Work in a safety-conscious manner.

⇒ Store dismantled device parts in a safe place while maintenance is being performed.

Clothing

CAUTION!

The drawing in of items of clothing by moving parts can lead to injuries.

⇒ If possible, do not wear clothing which could be caught by moving device parts.

⇒ Button or roll up shirt or jacket sleeves.

⇒ Tie or pin up long hair.

⇒ Tuck the ends of scarves, ties and shawls into your clothing or secure them with non-conductive clips.

DANGER!

Risk of death from increased flow of current via metals parts which come into contact with the device.

⇒ Do not wear clothing with metal parts.

⇒ Do not wear jewellery.

⇒ Do not wear glasses with a metal frame.

Protective clothing

If a possible danger to your eyes is present, wear protective goggles, especially in the following cases:

- when knocking in or knocking out pins and similar parts with a hammer
- when using an electric drill
- when using spring hooks
- when loosening or inserting springs, snap rings and gripping rings
- when soldering
- when using solvents, cleaning agents or other chemicals

Protective equipment

WARNING!

Risk of injury in case of missing or faulty protective equipment.

⇒ After performing maintenance work, attach all safety equipment (covers, safety precautions, ground cables etc.).

⇒ Replace the faulty parts and those which have become unusable.

General safety instructions

Before mounting the delivered components disconnect the printing system from the power supply and close the shutoff valve at the applicator.

Couple the applicator to devices using extra low voltage only.

Before making or undoing connections, switch off all devices involved (computer, printer, accessories etc.).

Operate the applicator in a dry environment only and do not get it wet (sprayed water, mist etc.).

Do not operate the applicator in explosive atmosphere and not in proximity of high voltage power lines.

Operate the applicator only in an environment protected against abrasive dust, swarf and other similar impurity.

NOTICE!

With the open printing unit (due to construction) the requirements of EN 62368-1 regarding fire protection casing are not fulfilled. These must be ensured by the installation into the end device.

Maintenance and servicing work can only be carried out by trained personnel.

Operating personnel must be trained by the operator on the basis of the operating manual.

Carry out only the actions described in these operating instructions. Any work beyond this may only be performed by especially trained personnel or service technicians.

Unauthorized interference with electronic modules or their software can cause malfunctions.

Other unauthorized work or modifications to the applicator can endanger operational safety.

WARNING!

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.

There is a risk of crushing due to the movement of the stamp downwards and upwards.

⇒ Do not reach into the working area of the stamp.

⇒ Keep hair, loose clothes and jewellery away from this area.

⇒ Before accessing this area, switch off the power supply and compressed air supply.

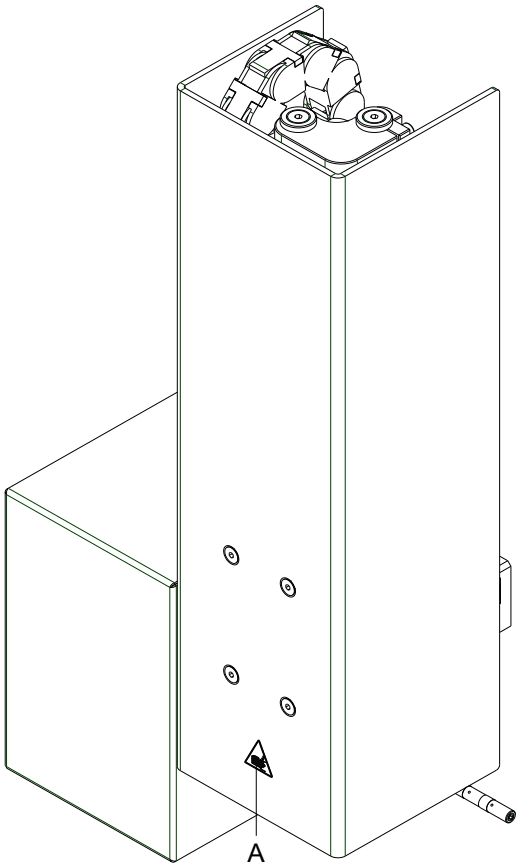


Figure 1

- A warning sticker is applied to the applicator to draw attention to dangers. Do not remove this label, otherwise the danger can no longer be recognized.

- The used operating pressure must not exceed 5 bar. Otherwise, this can lead to damages to the components.

CAUTION!

Damages of the plunger rod, cylinder tube or the seals caused by lateral forces that affect the plunger rod of the cylinder. This can lead to a reduction of lifetime and to leakages up to destruction of the cylinder.

⇒ Lateral forces must be avoided necessarily.

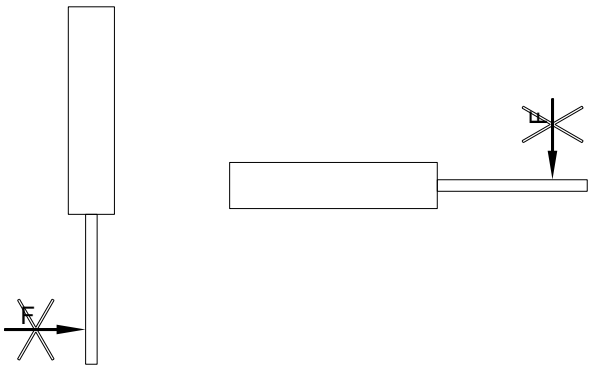


Figure 2

Installation position

CAUTION!

Depending on the installation position, when swivelling the applicator it may descend uncontrollably and hit the ILX V, potentially damaging the printing system.

⇒ When swivelling the applicator, it must be manually supported by hand depending on the installation position.

2.3 Danger Zone

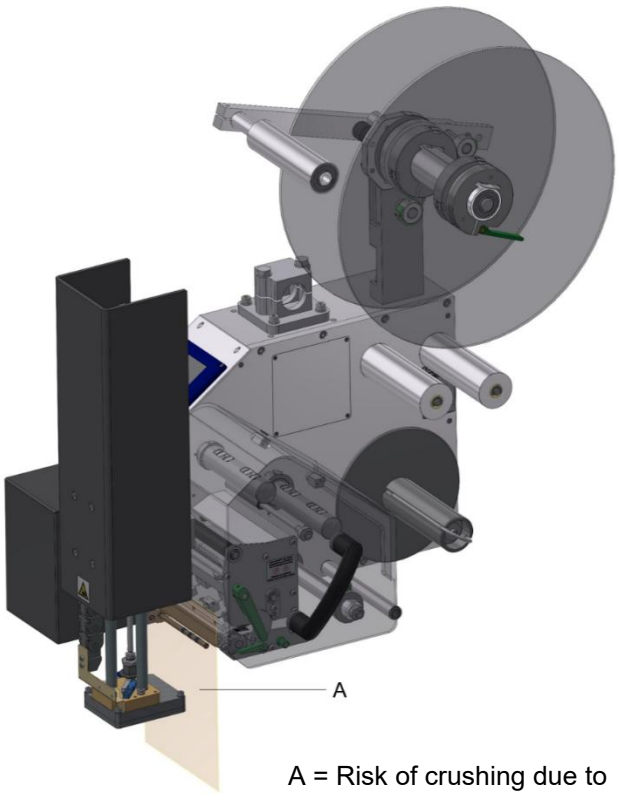
CAUTION!

Moving parts are accessible when using the applicator. Especially in the area in which the pad is moved between the basic and the labelling position.
There is a risk of injury due to the movement of the pad downwards and back up again.

⇒ Before accessing this area, switch off the power supply and the compressed air supply.

⇒ Keep hair, loose clothing, and items of jewellery out of this area.

⇒ Turn off the compressed air supply before accessing this area.



A = Risk of crushing due to the movement of the

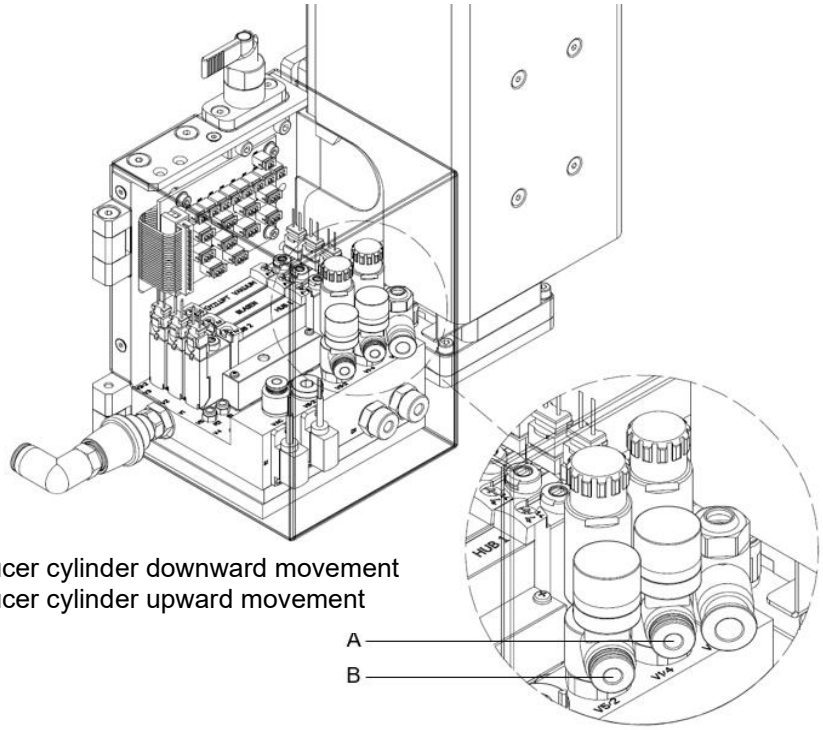
Figure 3

2.4 Safety Precautions

NOTICE!
The applicator has been designed to reduce the risk of injury.

For the cylinder movement, the pressure is throttled at the factory compared to the operating pressure of the complete labelling system.

This setting must not be changed!



A = pressure reducer cylinder downward movement
B = pressure reducer cylinder upward movement

Figure 4

According to DIN EN 61010-1 (VDE 0411-1), section 7.3.4, the highest acceptable sustained contact pressure is 50 N/cm² with a maximum power of 150 N. To further reduce the risk of injury, the cylinder movement has been internally adjusted so that the maximum power is limited to 75 N.

CAUTION!
Risk of crushing fingers.

⇒ The pressure reducers must not be modified at any time. Increasing the pressure of the cylinder movement does not meet the requirements of DIN EN 61010-1 (VDE 0411-1), section 7.3.4.

The applicator can be stopped at any time by interrupting the compressed air supply. For this purpose, a manual slide valve is attached directly to the applicator (see Figure 5). When the manual slide valve is in Off mode, the compressed air supply is interrupted, which immediately stops the applicator and automatically releases the compressed air. This applies also for the power-off mode: As soon as the power supply is interrupted, the compressed air in the system is automatically released and the applicator immediately comes to a standstill.

NOTICE!

If the compressed air supply is interrupted, the cylinder of the applicator can sink downwards due to gravity, depending on the installation position of the printing system.

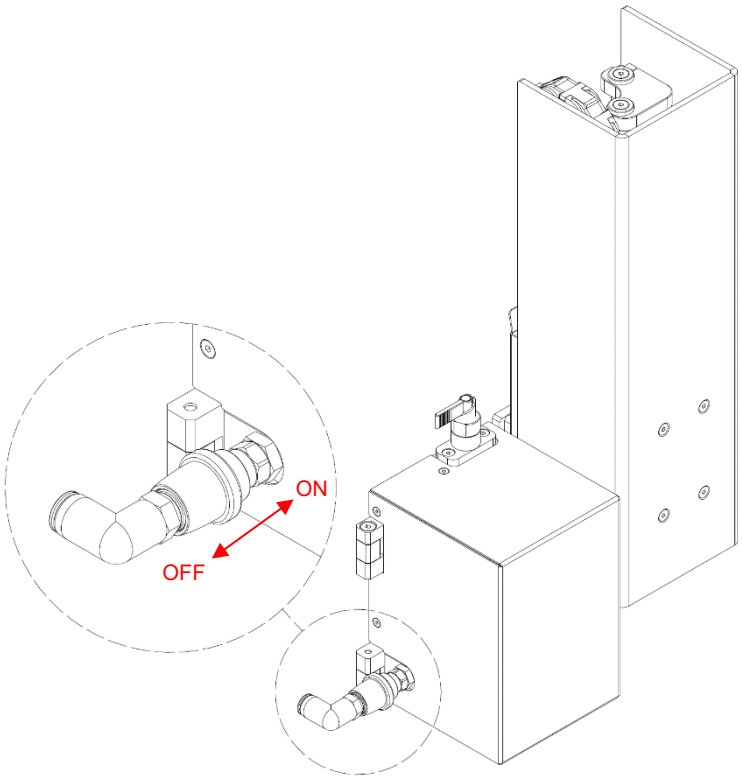


Figure 5

3 Product Description

3.1 Applicator Overview

Front view

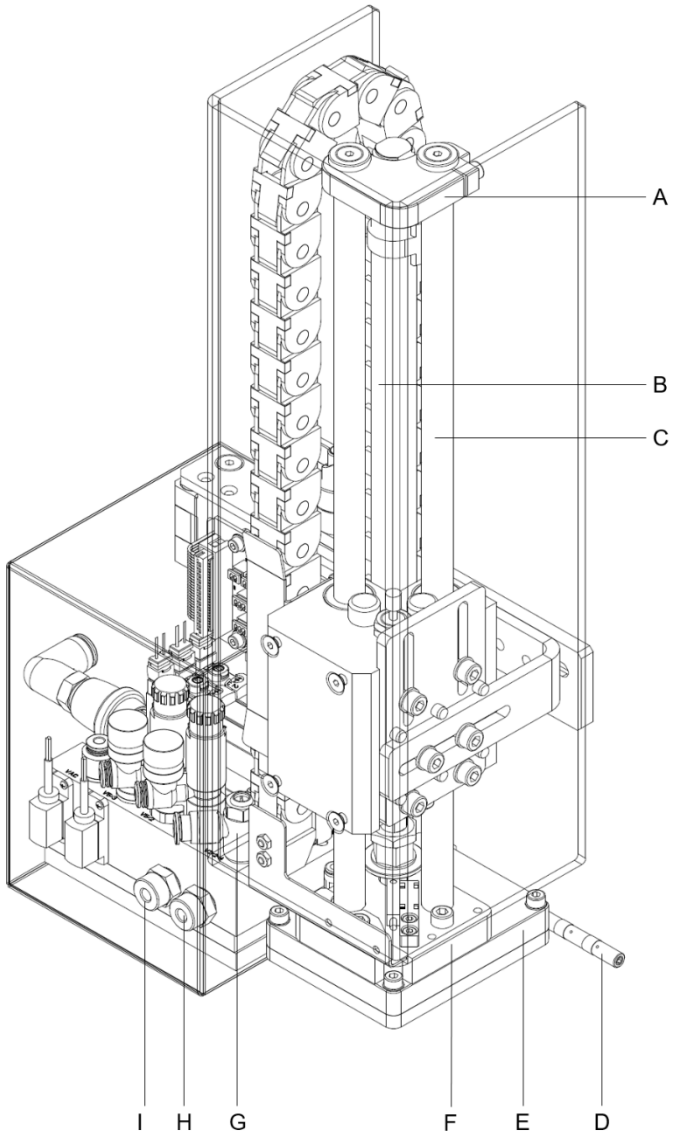


Figure 6

A = Stopper for the operation mode "blow on"
B = Pneumatic cylinder
C = Cylinder unit
D = Blow tube for supporting air
E = Pad (application specific)
F = Pad holder
G = Throttling valve 'blowing air'
H = Throttling valve 'vacuum'
I = Throttling valve 'supporting air'

Rear view

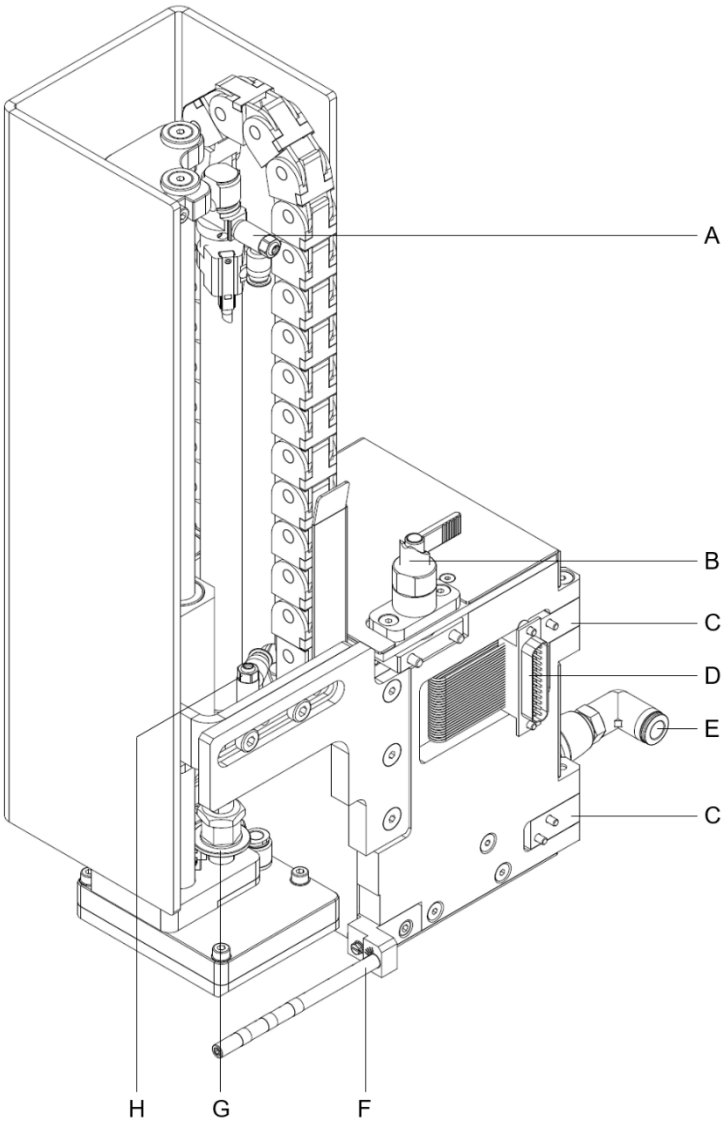


Figure 7

A = Throttling valve 'cylinder' (top)
B = Locking pin with interlock
C = Hinge for fixing the applicator to the printing system
D = Interface to the printing system
E = Compressed air connector
F = Blow tube for supporting air
G = Pad holder
H = Throttling valve 'cylinder' (bottom)

Service unit - right version

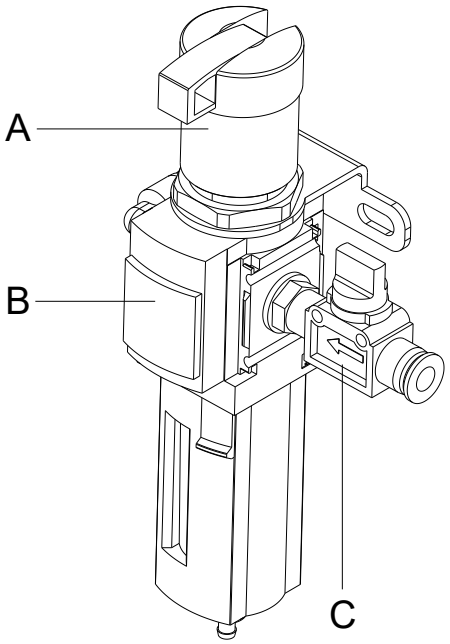


Figure 8

A = Adjusting knob of pressure control valve with filter
B = Manometer
C = Shut-off valve

Service unit - left version

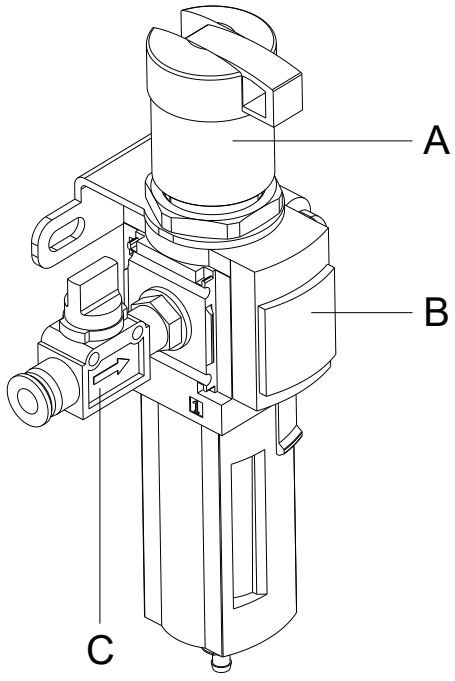


Figure 9

A = Adjusting knob of pressure control valve with filter
B = Manometer
C = Shut-off valve

3.2 Pads

Tamp pad

Universal tamp pad

Standard size:
70 x 85 mm

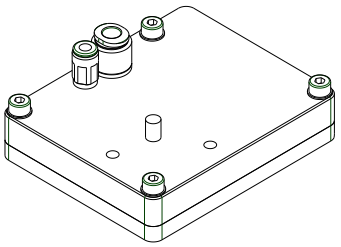


Figure 10

Spring-mounted universal tamp pad

Standard size:
90 x 120 mm

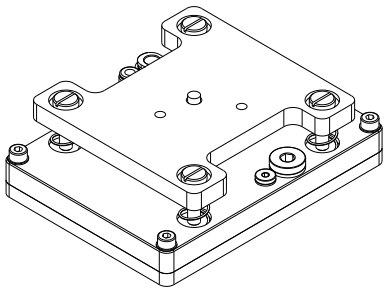


Figure 11

Universal tamp are available in different standard sizes. According to the size of the label the holes may be pierced by the customer. For that purpose, a piercing pin is included in the delivery contents.

On request, tamp pads customized to the label sized are delivered.

Roll-on pad

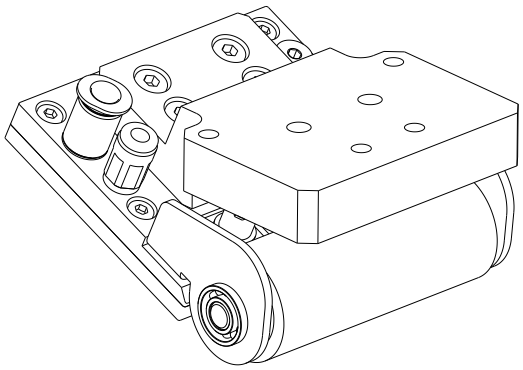


Figure 12

Roll-on pads are only produced on request customized to the label size.

Blow pad (w/o Teflon tape)

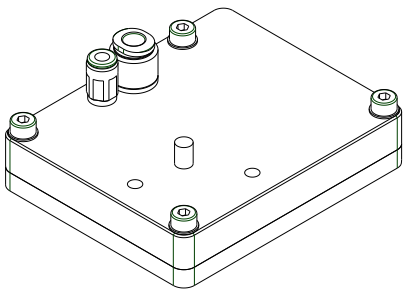


Figure 13

Blow pads are only produced on request customized to the label size.

3.3 Remove the Covers

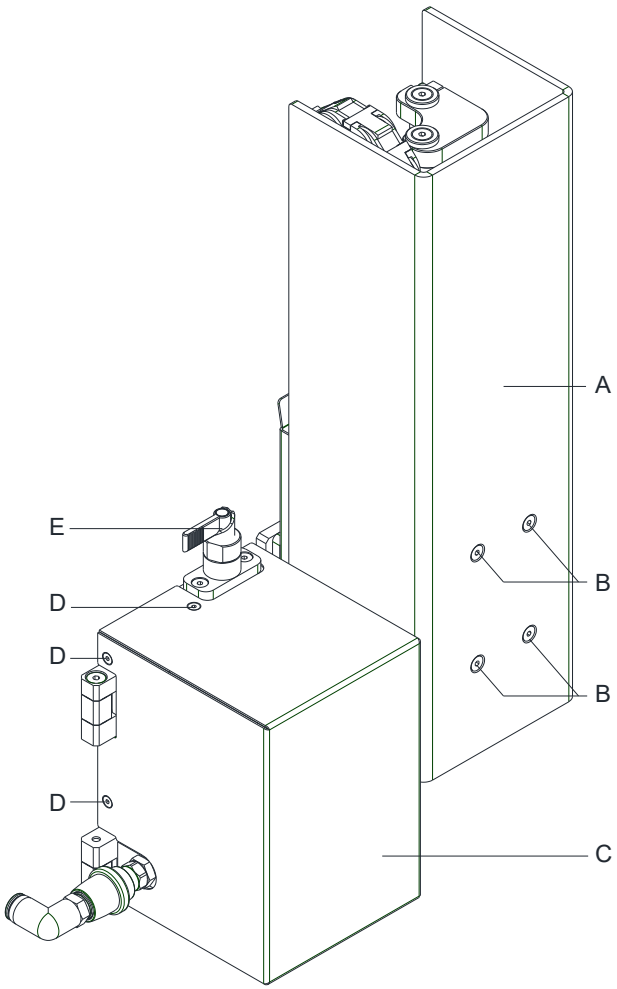


Figure 14

Removing the cylinder cover

1. Loosen screws (B).
2. Remove the cover (A).

Removing the electronics cover

1. Loosen screws (D).
2. Remove the cover (C).

3.4 Sensor

Sensor labelling position

The impact of the pad on the product and the reaching of the blow-off position is detected by an inductive proximity switch and a spring-mounted cam disc. The distance between the cam disc and the inductive proximity switch is used.

Sensor start position

The start position is the upper end position of cylinder and the position of the pad which takeover the label from printer. This position will be detected via a Reed-sensor in interaction with a magnet mounted inside cylinder.

Sensor vacuum

The correct transfer of a label will be checked by the vacuum sensor. It also checks that there is no longer a label on the pad in case the return movement. This sensor is integrated to the APX connection PCB.

Sensor pressure

The pressure sensor controls the pressure air. This sensor is integrated to the APX connection PCB.

3.5 Pneumatic

Cylinder

A cylinder with stroke of 100 … 400 mm is used for the transport of labels between the peel-off edge of the printer and the labelling position. The movement of cylinder is controlled by a control valve on the valve block.
The speed of movement can be changed by two throttle valves mounted at the cylinder.

Pad

The label will be transported by a pad. The pad must be proper to the size of label.
During the label transport a vacuum is applied on the pad.
In operating mode 'blow on' in the lower final position the label is applied by a high pressure.

Vacuum generator

The vacuum at the pad is produced by a vacuum generator. The vacuum generator is controlled by control valve on the valve block.
The low pressure can be adjusted by a throttle valve.

Blow tube

Air is blown from below (supporting air) through a blow tube onto the label to support the transfer of the label from the printer to the pad.
The blow tube is adjustable concerning the blowing direction.
The supporting air is connected by the magnet valve (support air). The power of the supporting air can be adjusted by a throttle valve at the valve block.

Pneumatic maintenance unit

The pneumatic maintenance unit is offered as a choice for the applicator. The important components of the pneumatic maintenance unit is a pressure reducer with manometer, a water separator with micro filter and a main connector for compressed air.

Valve block

The distribution of the compressed air to the various pneumatic units is made in the valve block.

On the valve block is mounted the control valve for support air and vacuum with their throttle valves and the control valves for the lift cylinder and blow air.

Control valves

NOTICE!

For adjustments of certain applicator functions, release the control valves in the pneumatic system.

The control valves are accessible only with dismounted protective covers for the electronics and cylinder.

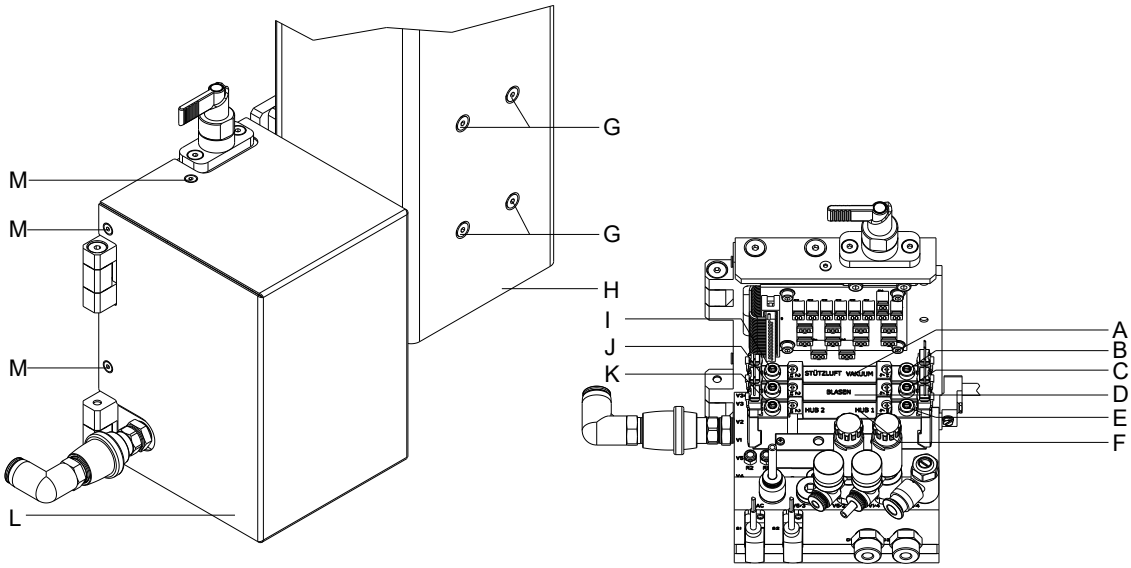


Figure 15

1. Loosen the screws (M) and remove the electronics' cover (L).
2. The compressed air control valves can be controlled manually with integrated switch (E-K, C-J, B-I).

3-way valve (F) to control the lift cylinder

If the printer is switched on the valve will be controlled by electronics and the tamp will hold in the upper end position (home position). If the valve switched the tamp will move in the lower end position (labelling position). In normal labelling operation the movement back in the upper end position will start by a signal from labelling sensor.

NOTICE!

The switching by hand of this valve has only a result in case of a switched off printer.

Switching the valve by hand over switch (E) the tamp will move down up to the lowest possible position because no control is made by the sensor.

Switching the valve by hand over switch (K) the tamp will move up.

Double 2-way valve (D) for blowing air

In the operation mode 'Blow on' the label will blow up to the product.

In the operating modes 'Stamp on' and 'Roll on' the blow air is switched on for a short time after each application to avoid contaminations within the vacuum channels.

For all described functions both valves will be controlled parallel.

By pressing the keys (C) or (J) the blow air is only switched on by one of both internal valves.

Double 2-way valve (A) for vacuum / supporting air

The two internal valves serve the vacuum nozzle for connecting an in this way for creating the negative pressure at the tamp and independent of this for connecting the support air at the blow tube for the label transfer.

By pressing switch (B) the vacuum is switched on and by pressing switch (I) the supporting air is switched on.

2-way valve (A) for option 'Quick Apply'

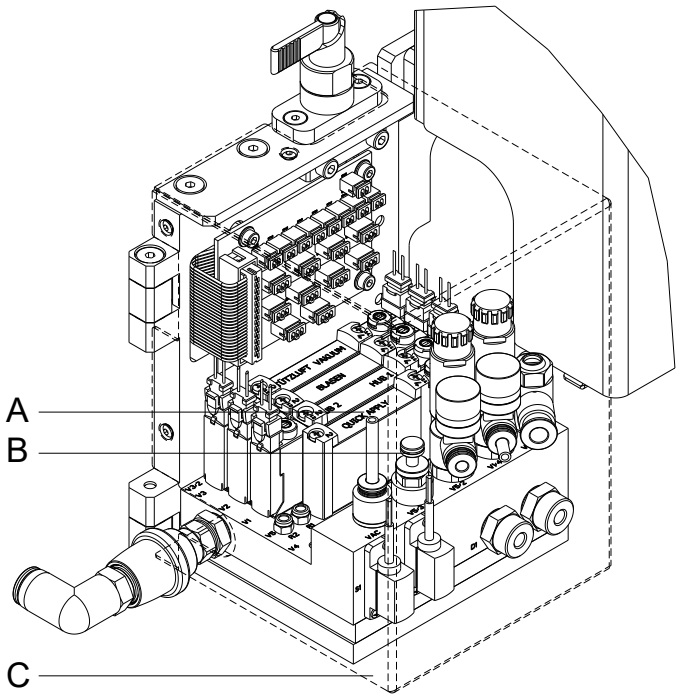


Figure 16

Turn the adjusting screw (B) to set the absorption of solenoid valve (A).

In the "quick apply" menu of the printing system, set the desired delay for valve activation in ms.

4 Maintenance and Cleaning

CAUTION!
Risk of injury when cleaning.
⇒ Pay attention to sharp edges.

4.1 Tools

For Assemblies	Tools	Size
Cylinder plunger	Spanner wrench	5.0 mm
Throttling valves cylinder		8.0 mm
Throttling valve vacuum, blowing air		14.0 mm
L-connector, cam disk (valve block in service unit)		14.0 mm
Lift cylinder		24.0 mm
Valve block, energy track	Hexagon wrench	2.0 mm
PCB		2.5 mm
Adjustment guiding block		4.0 mm
Throttle valves	Screwdriver for slotted screws	2.5 mm
Valves on the valve block	Cross tip screwdriver	PH 0
Sensors (labelling sensor + sensor start position)		PH 2
Works at PCB	Wrist grounding	
Pressure measurement	Manometer	to approx. 5 bar
Cloth soft brush, multi-purpose cleaner (without solvent)		

4.2 Cleaning

CAUTION!

Abrasive cleaning agents can damage the applicator!

⇒ Do not use abrasives or solvents to clean the outer surface of the label printer.

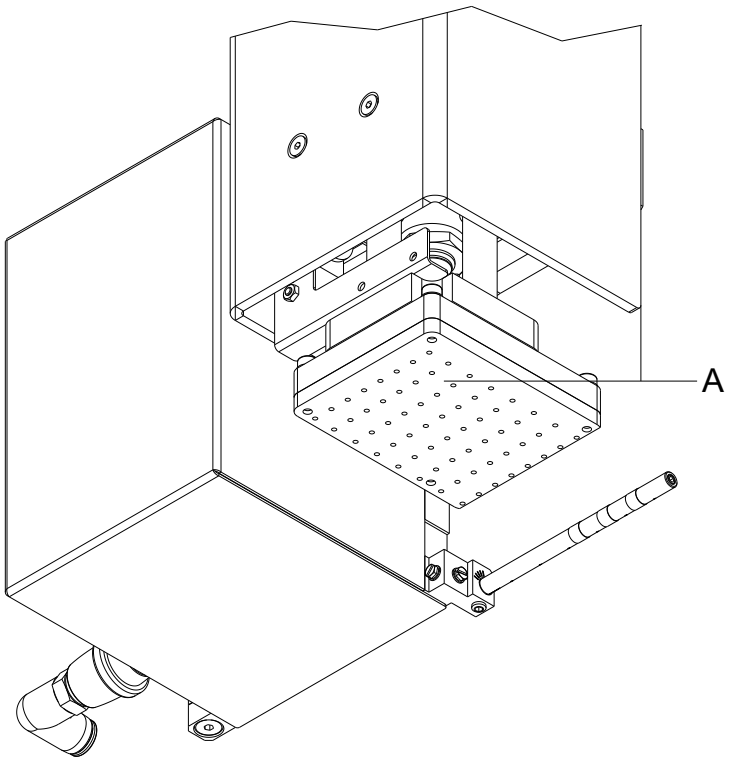


Figure 17

Clean the outside surfaces with multipurpose cleaner.

Remove dust particles and label splits with a soft brush or a vacuum cleaner.

The ideal takeover and handling of the label can be achieved by cleaning the surface of slide foil (A) at regular intervals.

5 Replacing Components

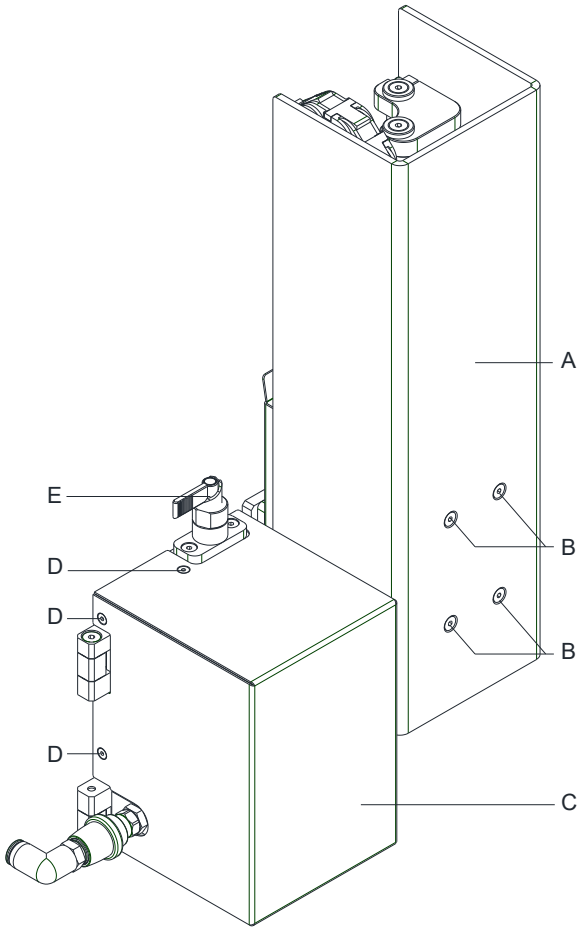
WARNING!
Risk of injury by uncontrolled functions of the applicator.

⇒ Disconnect the printer power supply.

⇒ Close the compressed air supply before the work.

5.1 Remove the Covers

NOTICE!
Dismantle the cover to arrive the components installed on the carrier plate.



Remove cylinder cover

1. Loosen screws (B).
2. Remove cover (A).

Remove electronics cover

1. Loosen screws (D).
2. Remove cover (C).

Figure 18

NOTICE!
Before starting the normal operation mount the covers again.

5.2 Stick the Slide Foil onto the Pad

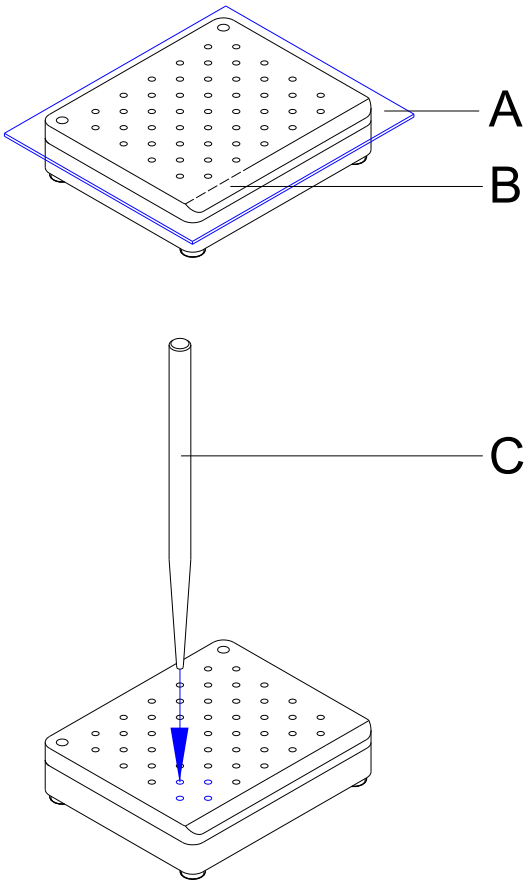


Figure 19

1. Dismount the pad unit (B).
2. Remove the slide foil (A) completely.
3. Clear the surface from remains of glue.
4. Remove the covering foil from the slide foil (A).
5. Put the slide foil (A) with its adhesive side onto the pad (B). Press the slide foil firmly on the pad.
6. Cut off the overlapping parts of the slide foil (A) according to the broken line of the pad (B).
7. Punch the slide foil (A) on the pad (B) using the punch pin (C) proper to the whole pattern on the wearing slide foil.
8. Punch the hole completely by turning the pin.
9. Mount the pad unit (B).

5.3 Replace the Valves

WARNING!
Risk of injury by uncontrolled functions of the applicator.

⇒ Disconnect the printer power supply.

⇒ Close the compressed air supply before the work.

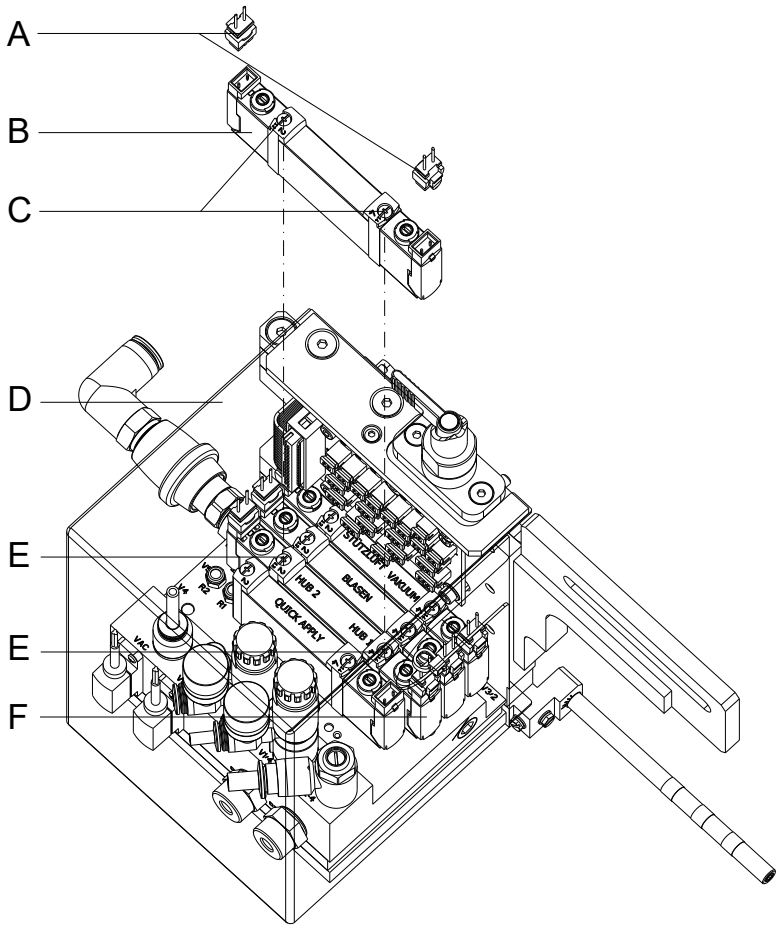


Figure 20

1. Remove the electronics cover (D) as described in chapter 5.1).
2. Remove the connecting line (A).
3. Loosen the screws (E) and remove the valve (F).
4. Install the new valve (B) and take care of the correct position of the provided rubber joint.
5. Mount the valve (B) with the screws (C).
6. Insert the connecting line (A) into the valve.
7. Install the electronics cover (D).

5.4 Replace the PCB

WARNING!
Risk of injury by uncontrolled functions of the applicator.

⇒ Disconnect the printer power supply.

⇒ Close the compressed air supply before the work.

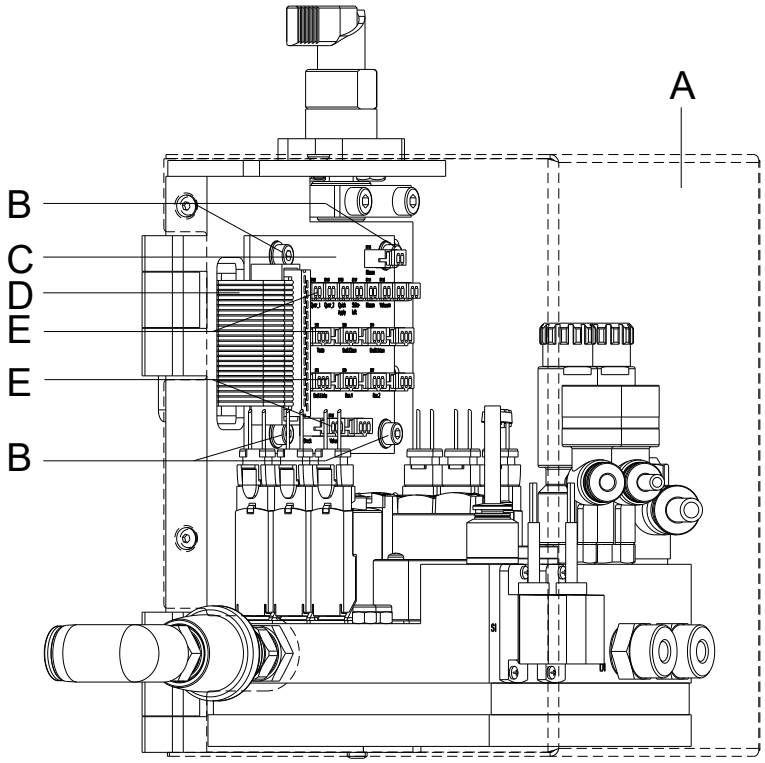


Figure 21

1. Remove the electronics cover (A) as described in chapter 5.1).
2. Remove the connector (E) of valves from the electronics.
3. Remove the cable (D) from the PCB (C).
4. Loosen the screws (B).
5. Remove the PCB (C).
6. Install the new PCB (C) and fix it with the screws (B).
7. Connect the cable (D) with the PCB (C).
8. Connect the plug connector (E) with the PCB (C). Take care of the cable marking.
9. Install again the electronics cover (A).

NOTICE!
Do not forget the connecting position for the re-installation!

5.5 Replace the Cylinder

WARNING!

Risk of injury by uncontrolled functions of the applicator.

⇒ Disconnect the printer power supply.

⇒ Close the compressed air supply before the work.

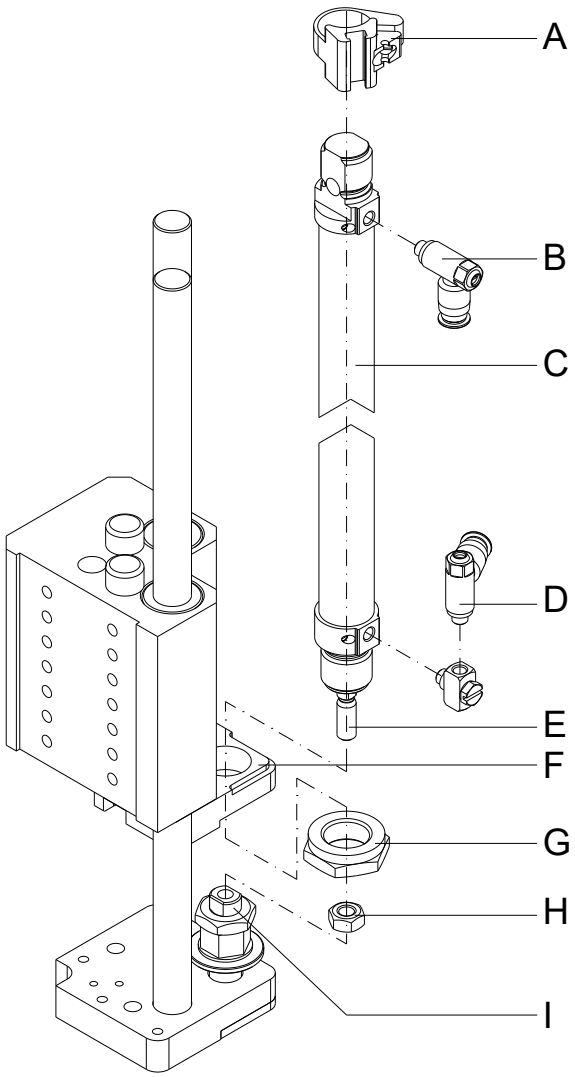


Figure 22

1. Remove the cylinder cover (see chapter 5.1).
2. Disassemble the sensor upper end position (A) with fastening the clamp.
   Remove the tubes from the cylinder (C).
3. Unscrew throttling valves (B, D) from cylinder.
4. Loosen the locknut (H) from the cylinder piston rod (E) using a size 10 spanner wrench while holding the coupling (I) with a size 8 spanner wrench.
5. Remove the cylinder piston rod (E) from the coupling (I) by rotating it.
6. Remove the fastening nut (G) while noting the fastening position of the cylinder.
7. Remove the cylinder (C) from the holder (F).
8. Insert the new cylinder (C) into the support (F) and attach it with the fastening nut (G).
   Ensure a correct cylinder position.
9. Insert the cylinder piston rod (E) into the coupling (I) by rotating it.
10. Attach the cylinder piston rod (E) with the locknut (H) while holding the coupling (I).
11. Mount the throttling valves (B, D).
12. Mount again the sensor upper end position (A) and tubes.
13. Install again the cylinder cover.

NOTICE!

After replacing a cylinder, the sensor positions are to be adjusted (see chapter 5.6).

5.6 Replace the Sensors at the Cylinder

WARNING!

Risk of injury by uncontrolled functions of the applicator.

⇒ Disconnect the printer power supply.

⇒ Close the compressed air supply before the work.

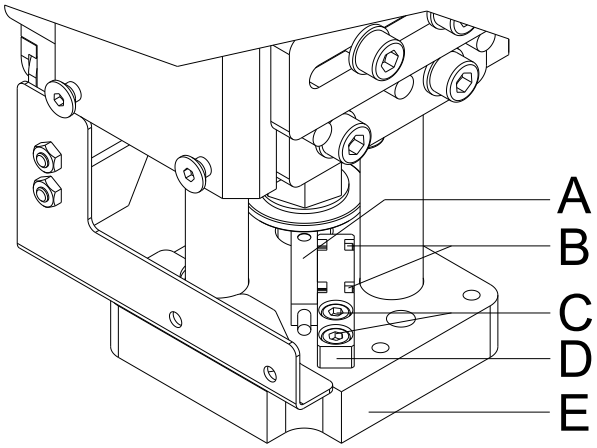


Figure 23

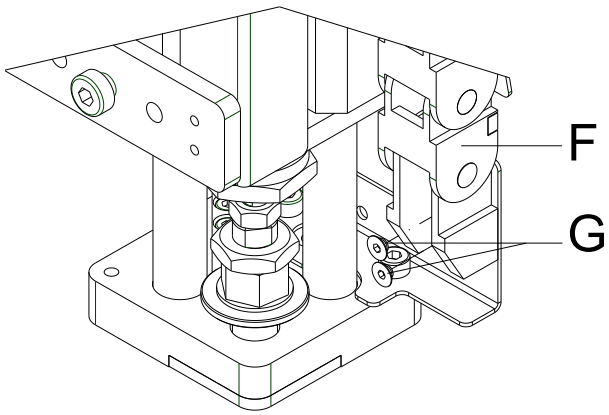


Figure 24

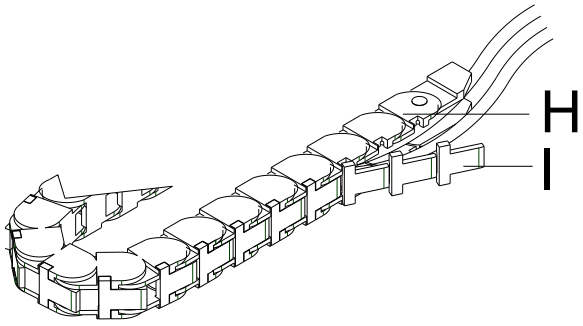


Figure 25

Replace the sensor labelling position (A)

1. Remove the cylinder cover and the electronics cover (see chapter 5.1).
2. Loosen the screws (C).
3. Remove the sensor holder (D) with the sensor (A).
4. Remove the screws (B).
5. Remove the screws (G) to loosen the energy track (F) on one side.
6. Detach the T-shaped parts (I) hooked together from the U-shaped parts (H) of the energy track (see Figure 26).
7. Pull out the sensor (A) from the energy track (F).
8. Remove the plug (L) of the sensor (A) from PCB (K).
9. Connect the new sensor (A) with the PCB (K).
10. Insert the new sensor (A) in the energy track (F).
11. Close again the energy track (F). To do so, press the T-shaped parts (I) into the U-shaped parts (H).
12. Mount again the energy track (F) and tighten the screws (G).
13. Mount the sensor (A) with screws (B) at the sensor holder (F).
14. Install the sensor holder (D) with the screws (C) at the guiding plate (E).

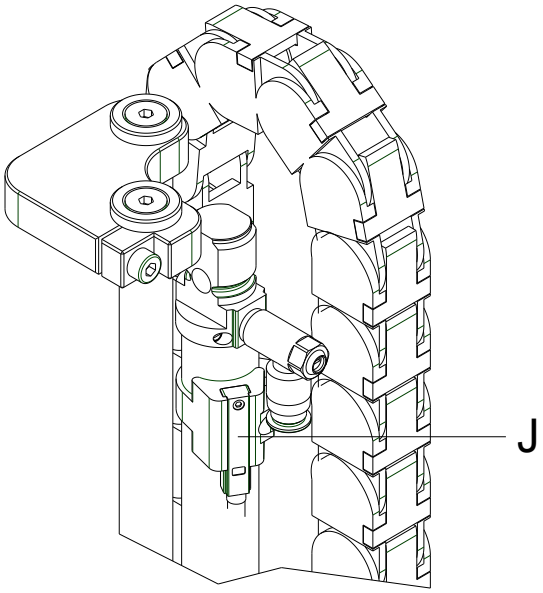


Figure 26

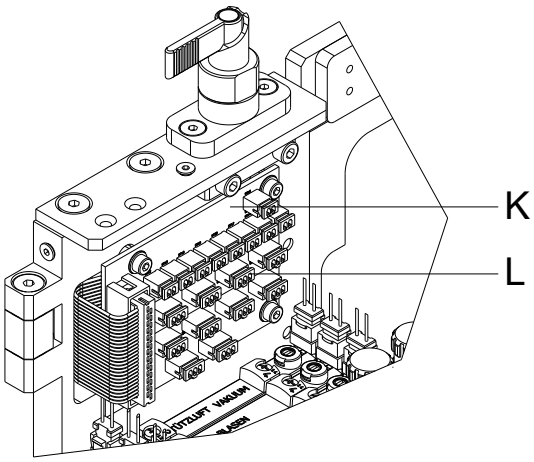


Figure 27

Replace the sensor start position (J)

1. Remove the cylinder cover and the electronics cover (see chapter 5.1).
2. Remove the sensor plug (J) from the PCB (K).
3. After loosening the small thread pin, remove the start position sensor (J) from the support and replace it.
4. Connect the plug of the new sensor (J) with PCB (K).

NOTICE!

After replacing a sensor its new position (see chapter 7.1, page 37).

6 Refit the Options

WARNING!
Risk of injury by uncontrolled functions of the applicator.

⇒ Disconnect the printer power supply.

⇒ Close the compressed air supply before the work.

6.1 'Quick Apply'

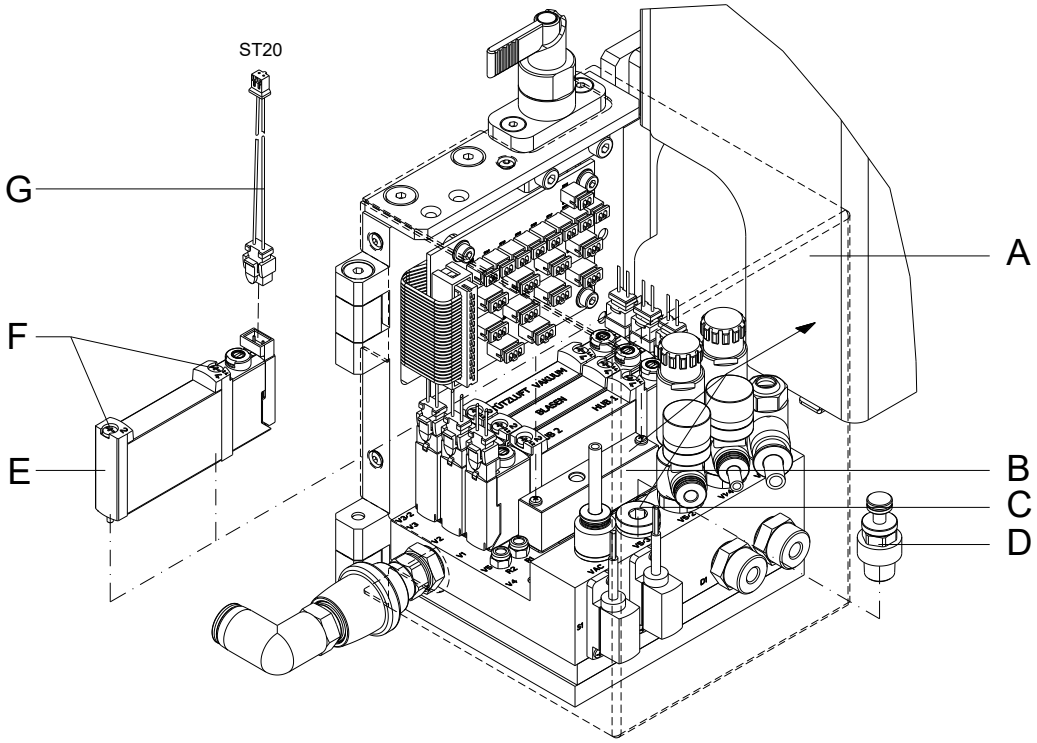


Figure 28

1. Remove the electronics cover (A, see chapter 5.1).
2. Unscrew the cover plate (B).
3. Fix the option 'Quick Apply' valve (E) with the screws (F) at the valve block ensuring the correct position of the supplied rubber seal.
4. Insert the connecting line (G) into the valve (E) and connect it with the slot ST20 on the PCB.
5. Unscrew the blind bolt (C).
6. Mount the throttle silencer (D).
7. Mount again the electronics cover (A).

6.2 Shock Absorber

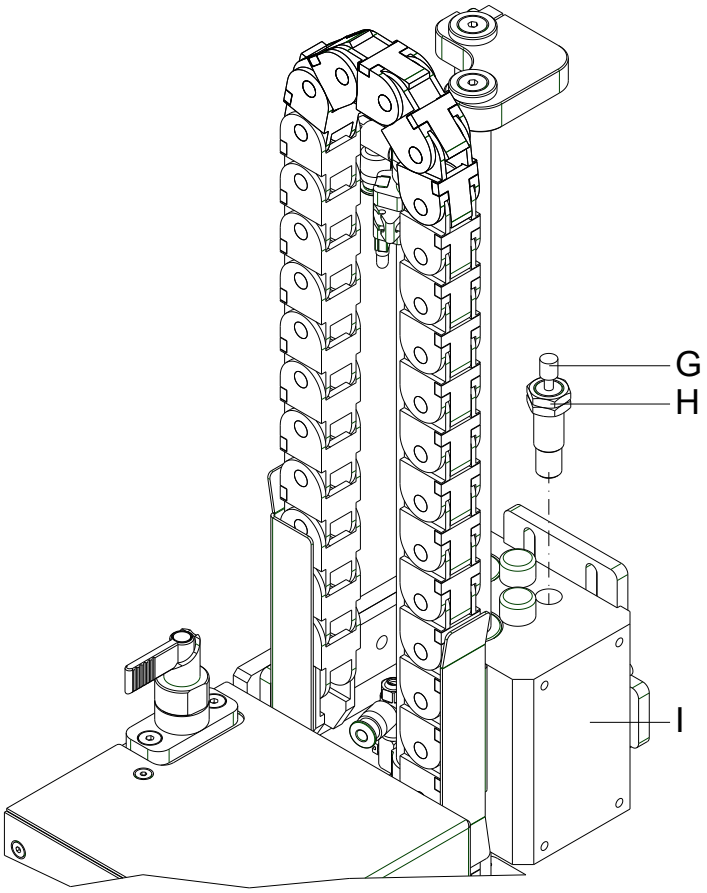


Figure 29

1. Remove the cylinder cover (see chapter 5.1).
2. Screw the shock absorber (G) into the cabinet (I).
3. Secure the position of the shock absorber (G) with the locknut (H).
4. Mount again the cylinder cover.

6.3 Product Sensor

The 'Product Sensor‘ option is used for optical, non-contact detection of products, providing input signals to the pneumatic system.

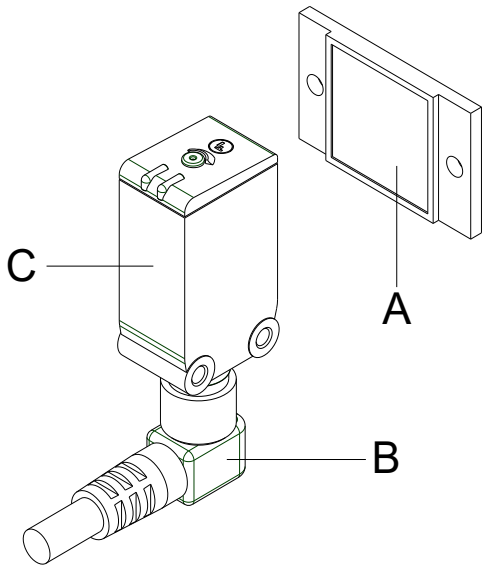


Figure 30

A = Reflector

B = Connection cable

C = Reflexion photocell

NOTICE!

When using reflexion photocells, ensure that external light sources (e.g. work lamp) do not interfere with the photocell.

1. Connect the connection cable (B) of the reflexion photocell (C) to the I/O-24 interface.
2. Mount the reflector (A) perpendicular to the reflexion photocell (C).

7 Troubleshooting

7.1 Sensor Labelling Position / Sensor Start Position

The sensor labelling position shows the activation by a LED integrated in the sensor. This LED glows in case of activation.

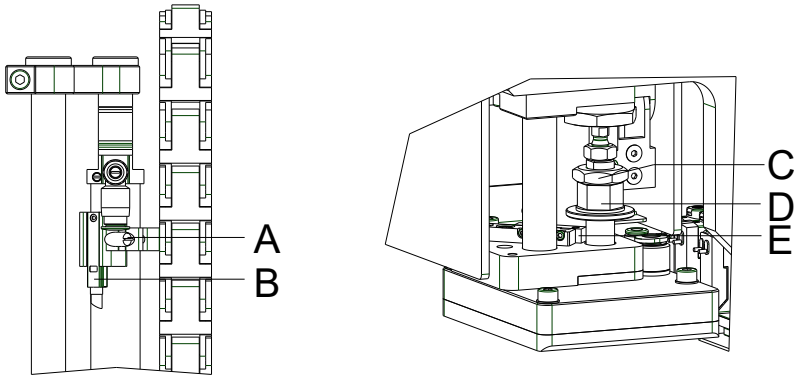


Figure 31

Adjust the sensor start position (B)

1. Loosen the locking ring by loosen the screw (A).
2. Open the compressed air supply.
3. Switch on the printing system and the cylinder is moved to the maximum position (upper end position).
4. Move the locking ring with the sensor (B) so that the LED at the sensor glows.
5. Fix the sensor position by tightening the screw (A) of the locking ring.

Adjust the sensor labelling position (E)

The distance between the sensor (E) and the cam disc (D) should be at least 2 mm. The printing time of the pad may be adjusted by changing the distance.

1. Detach the cam disc (D) and the locknut (C) from each other.
2. Set the distance between the cam disc (D) and the sensor top edge.
3. Secure the position of the cam disc (D) with the locknut (C).

7.2 Supporting Air Throttle Pressure Measuring

NOTICE!

Use a manometer with a measuring scale to 5 bar for measuring the pressure.

Measuring point 1: Supporting air (reference value 1.5 bar)

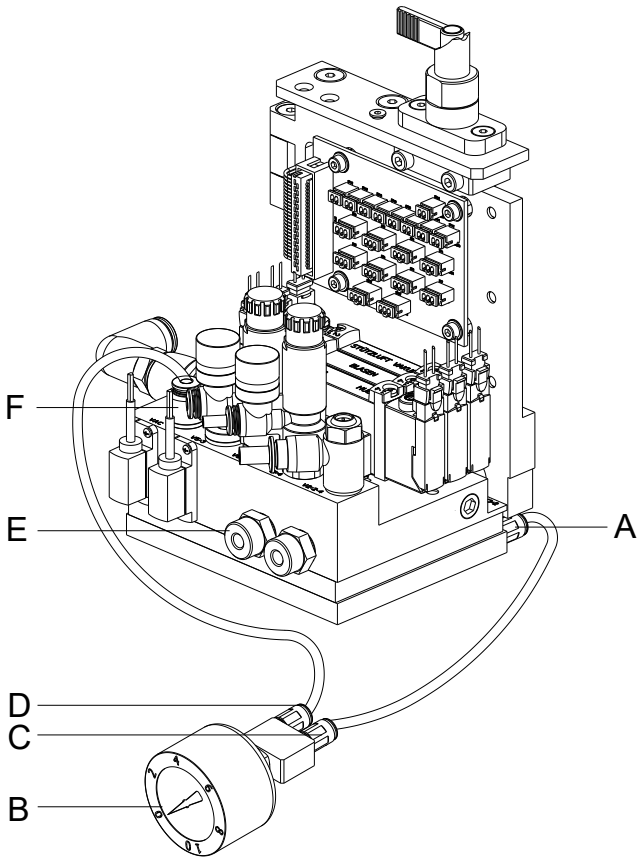


Figure 32

1. Remove the electronics cover (see chapter 5.1).
2. Unscrew the support air holder and then screw a straight push-in fitting (A) in the support air channel.
3. Connect the measuring instrument with hoses to the push-in fittings (A-C and D-F).
4. Switch on the pressure 'supporting air'.
5. If needed, set the pressure at the throttling valve (E).
6. After measurement and setting, unscrew the push-in fitting (A) and then screw again the support air holder.
7. Mount again the electronics cover.

CAUTION!

Malfunction at label takeover from dispensing edge to pad. Not enough vacuum / support air.

⇒ After the pressure measuring, reconnect all connectors and check the interference fit of the tubes.

7.3 Vacuum Throttle Pressure Measuring

NOTICE!

Use a manometer with a measuring scale to 1 bar for measuring the pressure.

Measuring point 2: Vacuum (reference value -0.4 bar)

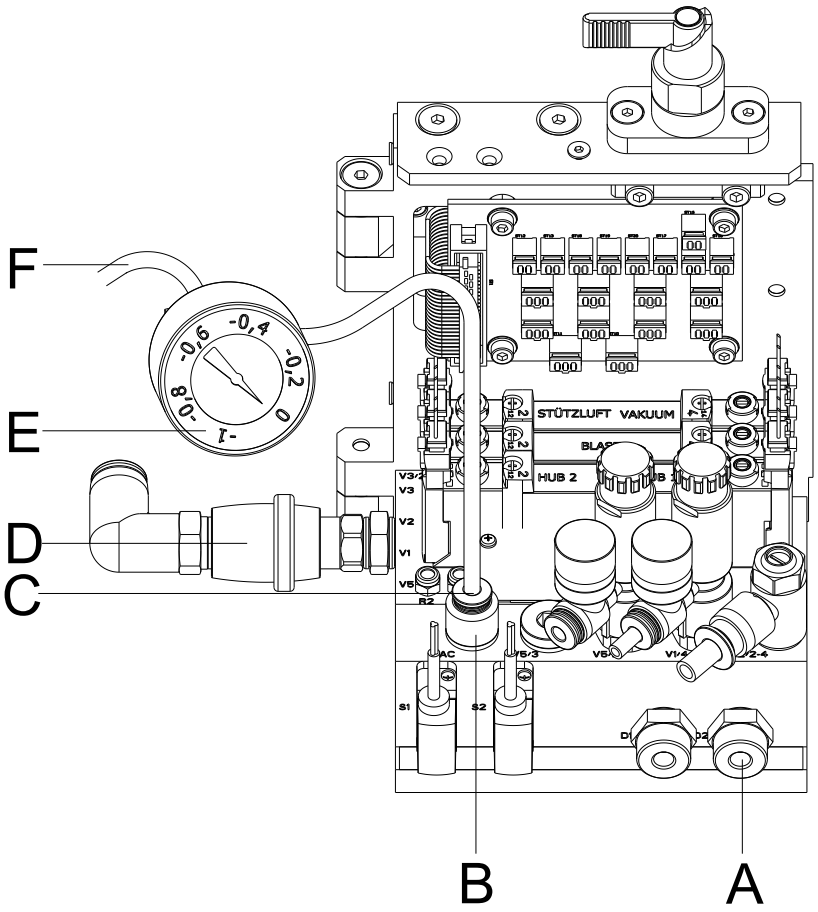


Figure 33

1. Remove the electronics cover (see chapter 5.1).
2. Insert the vacuum hose (C) from the vacuum measuring instrument (E) into the push-in fitting (B).
3. Switch on the pressure 'vacuum'.
4. Sealing the point (F) of the vacuum measuring device (E).
5. Measure the vacuum value.
6. If needed, set the pressure at the throttling valve (A).
7. Mount again the electronics cover.

CAUTION!

Malfunction during the label transfer from the dispensing edge to the pad. Vacuum/supporting air too low.

⇒ Following the pressure measurement, re-establish the connections and check the tubes for tightness.

7.4 Troubleshooting pressure /vacuum control

Error: Empty vacuum plate

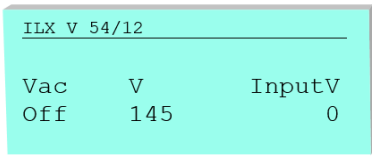
After verification that all holes in the pad plate are covered by the by the label and the pressure supply functions correctly, the switching threshold of vacuum sensor is to be set anew.

Press the key F to access the function menu.

Press the key ▬ until the menu *Label applicator* is displayed.

Press the key ● to select the menu.

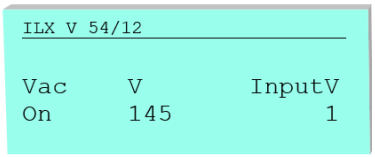
Press the key ▬ until the menu item shown below is reached.



With the keys ▲ or ▼ set the the vacuum valve to On.

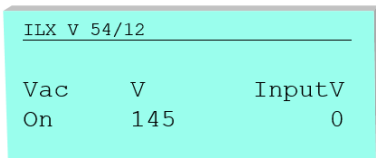
Place the label which is to be printed below the pad so that all suction holes are covered by the label. By the applied vacuum the label remains under the pad.

In case of correct operation, the *InputV* should stand for the value 1 (see display).



Otherwise, the switching threshold of the vacuum sensor must be set by the setting range of *VacuumV* so that the switching threshold changes from 0 to 1. For this, use the keys ◄ or ► to switch to the setting range of *VacuumV*. Use the keys ▲ and ▼ to increase or decrease the value.

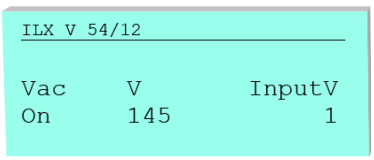
Remove the label from the pad. The input value *InputV* should show the value 0. If a label is sucked again to the pad, the value should change to 1.



Switching limit InputV = 0

Vacuum is switched On (Vac = On)

The system recognizes that no label is under the pad



Switching limit InputV = 1

Vacuum is switched On (Vac = On)

The system recognizes that a label is under the pad

Error: Compressed air

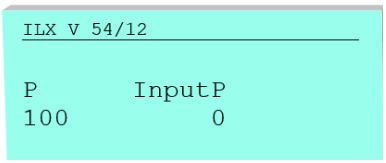
After verification that the compressed air supply functions correctly, the switching threshold of the pressure sensor must be set.

Press the key F to access the function menu.

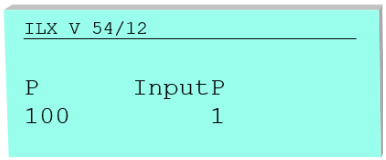
Press the key → until the menu *Label applicator* is displayed.

Press the key ● to select the menu.

Press the key → until the menu item shown below is reached.

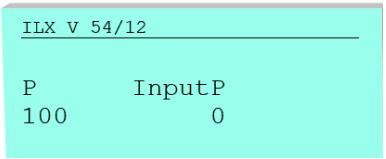


The air pressure is set to a minimum pressure of 2.5 bar. The input value *InputP* should now represent value 1 (see display).

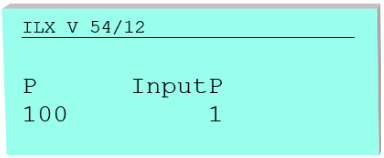


Otherwise, the switching threshold of the pressure sensor must be set using the setting range *InputP* so that the switching threshold changes from 0 to 1. Use the keys ▲ and ▼ to increase or decrease the value.

The air pressure is set to < 2.5 bar. The input value *InputP* should now stand for the value 0. If the air pressure is set to > 2.5 bar, the value should again change to 1.



Switching limit pressure sensor InputP = 0
The system recognizes that the minimum pressure of 2.5 bar is not set



Switching limit pressure sensor InputP = 1
The system recognizes that the working pressure is ≥ 2,5 bar

7.5 Error Indications

Error	Cause	Solution
Insufficient vacuum on pad	In cyclical operation the control valve 'vacuum' is not controlled. Defective applicator PCB.	Change the applicator PCB.
	No pressure at the output of throttle valve 'vacuum' or the pressure cannot be adjusted.	Adjust and/or change the throttle valve.
	No vacuum at the output of vacuum generator.	Change the sound absorber if it is soiled. Change the vacuum generator if it is defect.
	Leaking vacuum chain.	Measuring as described in chapter 7.2, page 37. Check the transmission elements and replace them if necessary.
	Insufficient vacuum at the pad. Suction channels at the pad or slide foil clotted.	Clean the suction channels and/or change the slide foil.
Fault in the cylinder movement	The condition of valve control is not shown with the LED at the valve connector.	Check the connections.
	Defective applicator PCB.	Change the applicator PCB.
	No pressure at the output of miniature pressure regulator or the pressure cannot be adjusted.	Adjust and/or change the miniature pressure regulator.
	No pressure at the output of one of the throttle valves at the cylinder or the pressure cannot be adjusted.	Adjust and/or change the throttle valve.

Error	Cause	Solution
Loss of blow air	The valve is not activated. The LED at valve does not glow. Defective applicator PCB.	Change applicator PCB.
	Insufficient pressure at pad with an activated valve. Defective pneumatic tubes.	Replace pneumatic tubes.
Loss of applicator function	Compressed air failure.	Check the connections.
	Defective applicator PCB.	Change the applicator PCB.
Loss of support air	Valve is not controlled. Defective applicator PCB.	Change the applicator PCB.
	Insufficient pressure at blow tube with an activated valve. Defective pneumatic tubes.	Change the pneumatic tubes.
	Defective or wrong adjusted throttle valve.	Adjust and/or change the throttle valve.
Permanent error at the label transfer via pad	Faulty pad position in the transfer position to the peel off edge of the printer.	Correct the position (backward edge of the pad approx. 1 mm above the peel off edge of the printer).
	Insufficient or missing vacuum.	Adjust the vacuum at the throttle valve.
	Support air does not blow exactly the label to the pad.	Adjust the blow tube. Adjust the pressure of the support air via throttle valve 'support air'. Adjust the switch on delay.

8 Connection Plans

8.1 Wiring Plan

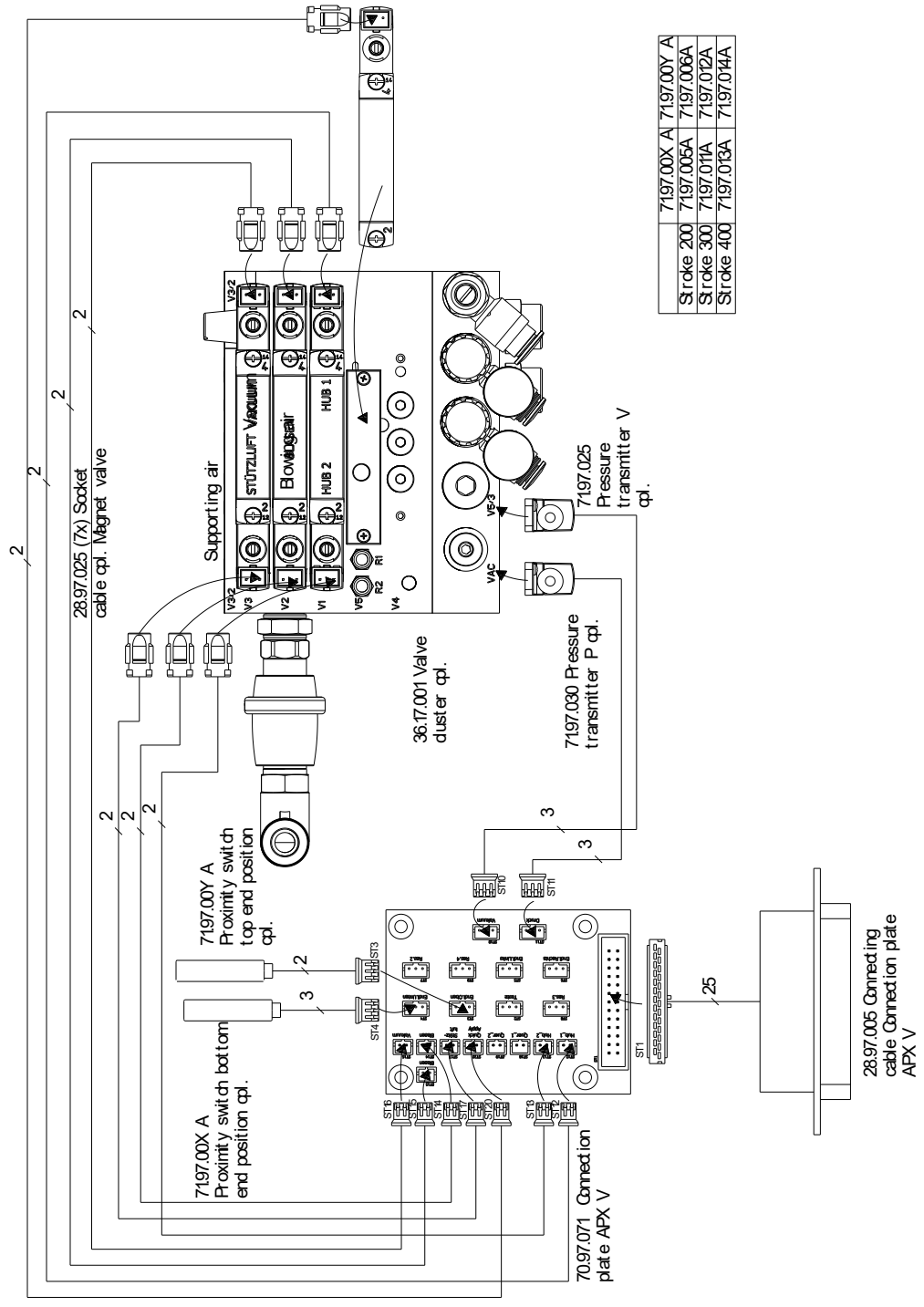


Figure 34

8.2 Pneumatic plan

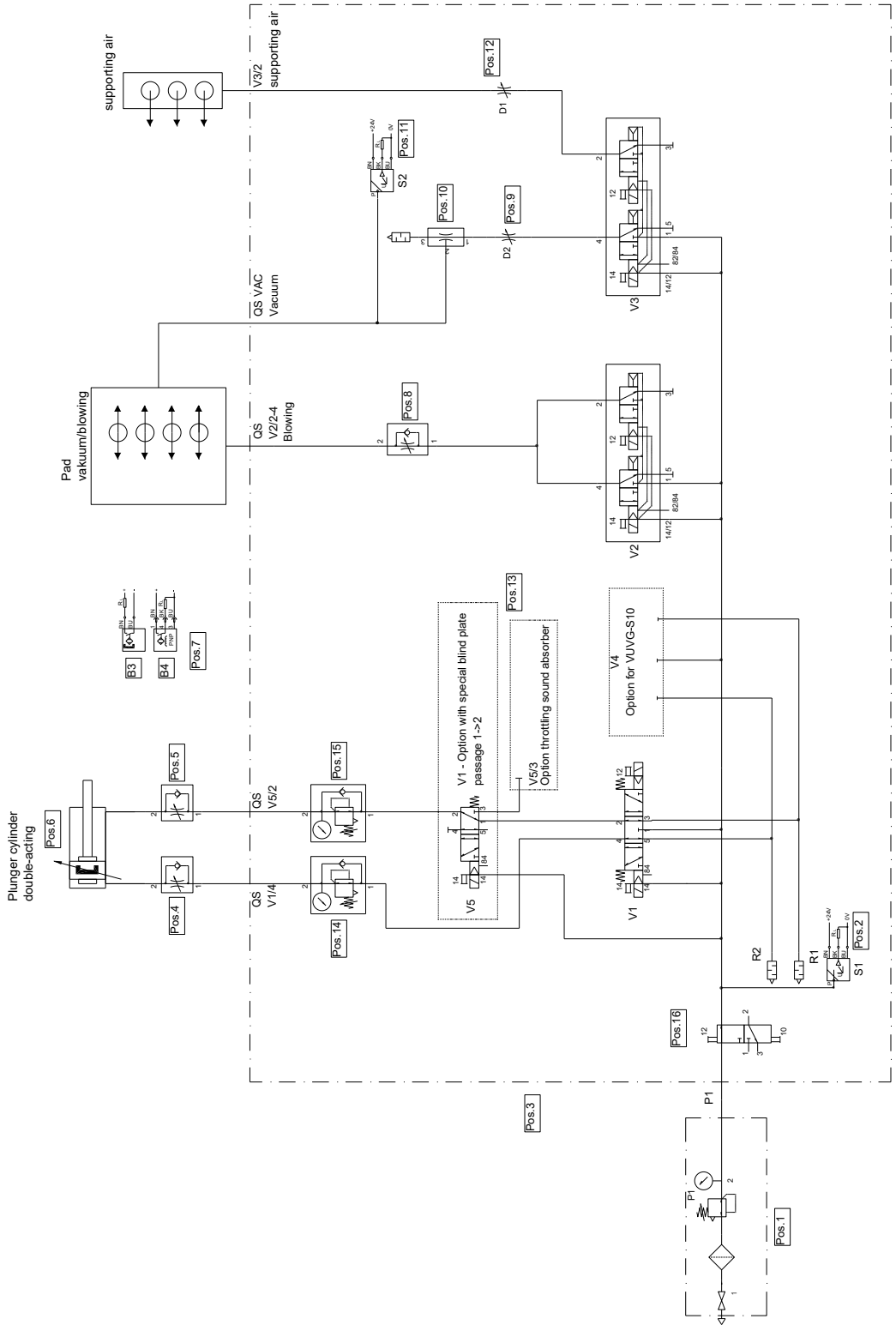


Figure 35

8.3 Connector Pin Assignment of PCB

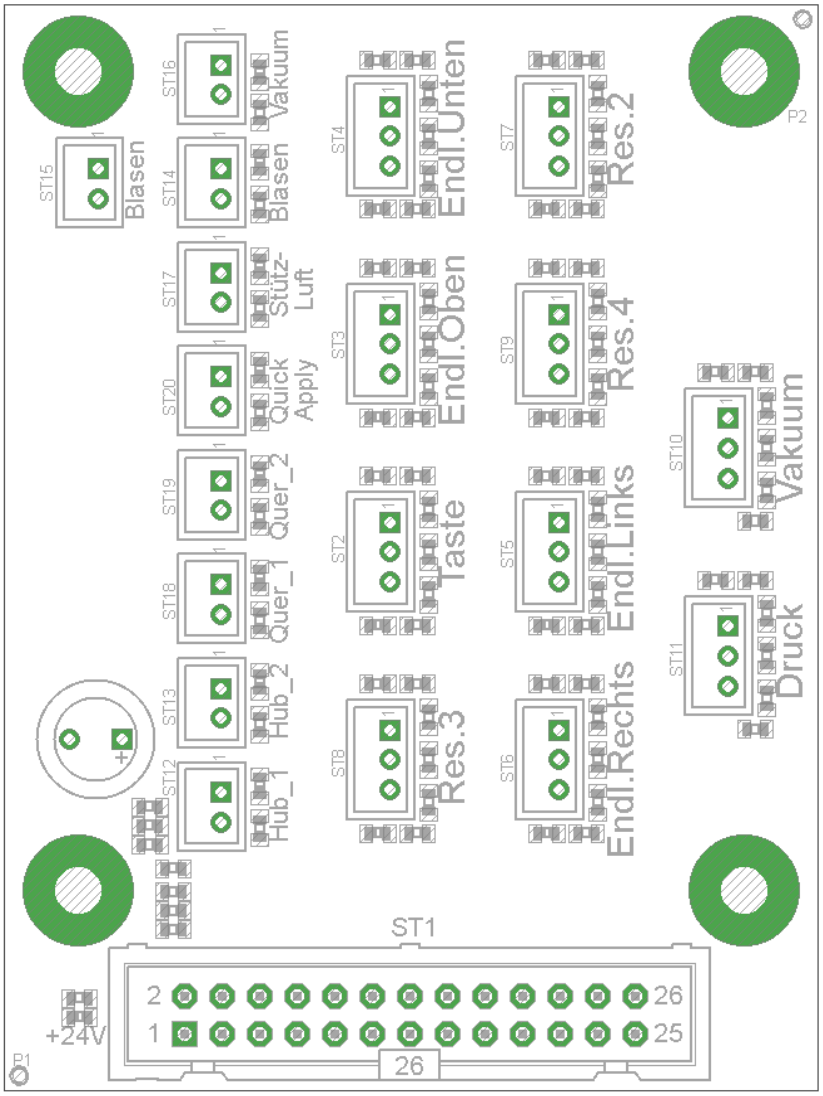
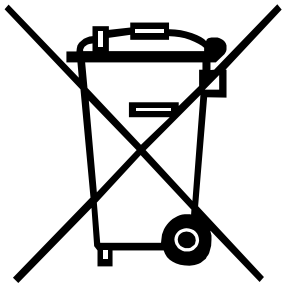


Figure 36

9 Environmentally Friendly Disposal



Manufacturers of B2B equipment are obliged to take back and dispose of old equipment that was manufactured after 13 August 2005. As a principle, this old equipment may not be delivered to communal collecting points. It may only be organised, used and disposed of by the manufacturer. Valentin products accordingly labelled can therefore be returned to Carl Valentin GmbH.

This way, you can be sure your old equipment will be disposed of correctly.

Carl Valentin GmbH thereby fulfils all obligations regarding timely disposal of old equipment and eases the smooth reselling of these products. Please understand that we can only take back equipment that is sent free of carriage charges.

The electronics board of the printing system is equipped with a battery. This must only be discarded in battery collection containers or by public waste management authorities.

Further information on the WEEE directive is available on our website www.carl-valentin.de.

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