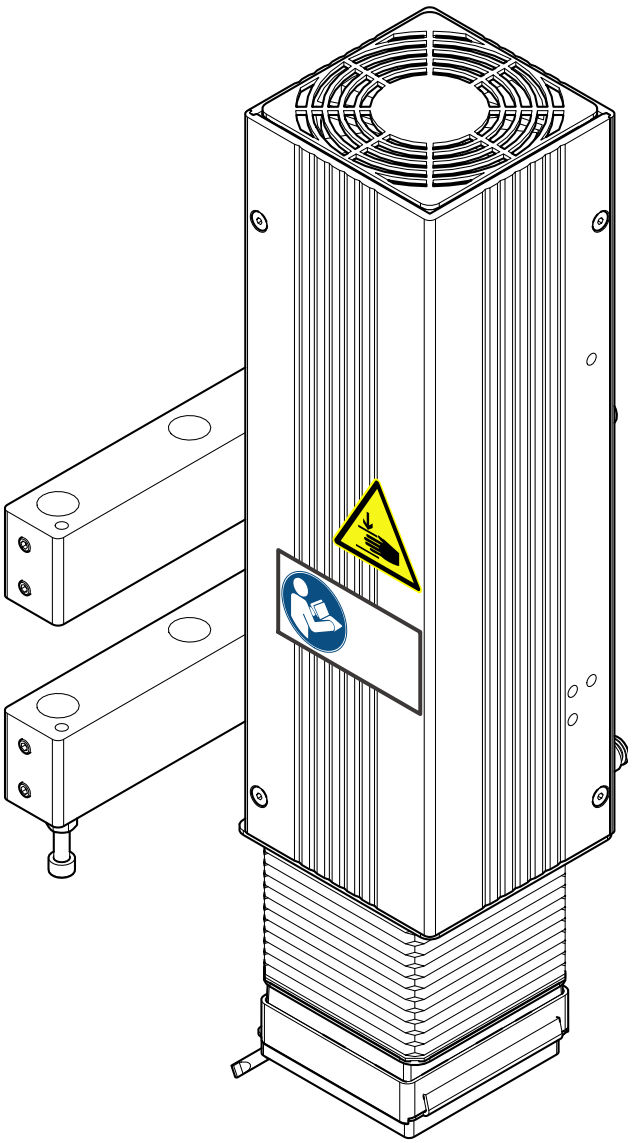
NOVEXX SOLUTIONS

OPERATING MANUAL

LTP / LTPV

Applicators



Release 1 - 7/2015

Content

Please Note

GENERAL INFORMATION

Validity of this manual and required compliance

Contents

The complete operating manuals for the LTP and LTPV applicators consist of the following parts:

- Operating manual (for operating and service personnel)
- Service manual (for service personnel)
- Spare parts catalogue (for service personnel)

This *operating manual* describes the installation and operation of the named applicators. For safe and proper operation of the dispenser/print-dispenser with attached LTP / LTPV, it is indispensable to consult the operating manual for the relevant dispenser/print-dispenser too.

For technical questions not covered in this operating manual:

➔ Follow the instructions of the service manual for the applicator or the dispenser/print-dispenser

or

➔ Request a service technician from our sales partner.

Our sales partner's customer service department is available especially for configuration settings and malfunctions.

Device designation

LTP / LTPV stands for „Light Touch Pneumatic“ respectively „Light Touch Pneumatic Vacuum“.

LTP and LTPV are both available in different designs and versions. For details refer to chapter Configurations 🗋 on page 18.

Technical release

04/2013

Liability

NOVEXX Solutions reserves the right:

- to make changes in design, parts and software and to use equivalent parts instead of those specified for the purpose of technological progress.
- to change information in this manual.

Any obligation to extend these changes to machines previously delivered is excluded.

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How information is represented

Explanation of symbols

To enhance readability and make information easier to find, different types of information are identified:

➔ Instruction with no order of tasks assigned

1. Numbered instructions introduced by preceding text
2. The specified order must be followed!

➠ Special note for action that must be performed.

☹ Explanation of an error cause in the reference of error messages.

- Enumeration of features
- Other feature

The Experts symbol identifies activities that are reserved exclusively for qualified and specially trained personnel.

The information symbol identifies notes and recommendations as well as additional information.

Notes about hazards and risks

Important instructions that must absolutely be followed are specially highlighted:

WARNING!

A warning symbol refers to risks that can result in severe or fatal injuries! The note contains safety measures to protect affected persons.

➔ Instructions must be followed without exception.

CAUTION!

A caution symbol refers to risks that can result in property damage or personal injury (minor injuries). The note contains instructions for preventing damage.

➔ Instructions must be followed without exception.

Illustrations

Illustrations appear in the text where required. References to these illustrations are shown in [square brackets] containing the number of the illustrations. Uppercase letters after an illustration number, for example [12A], refer to the corresponding item within the illustration.

Key symbols

Keys in the *dispenser control panel* (if present) are represented as symbols.

If multiple keys must be pressed simultaneously, the symbols are joined in the text by "+": + 

Keys in the *printer control panel* are represented as text, for example "Press the ONLINE key".

Parameters

Parameters in the parameter menu are represented in the format MENU NAME > Parameter name in grey type.

FOR YOUR SAFETY

Intended use

WARNING!

The device described here is „partly completed machinery“ as defined by machinery directive 2006/42/EC!

➔ Do not set the applicator in operation until it has been determined that the machine in which the applicator will be installed meets the requirements of directive 2006/42 EC, appendix IIA.

Although the applicator is „partly completed machinery“ under the terms of the machinery directive, for reasons of clarity it is called „machine“ or „applicator“ in this manual

The LTP/LTPV applicator is a device for automatic attachement of self-adhesive labels, which are supplied to the applicator by one of the following label dispensers or print & apply machines.

Dispensers:

- ALS 20x
- ALS 256

Print & apply machines:

ALX 92x

The LTP/LTPV is firmly attached to the respective machine. In contrast to direct dispensing from the dispensing edge of the machine onto the product, the LTP/LTPV can bridge distances of up to 20 cm between dispensing edge and product. The „light touch“ function enables the LTP/LTPV to attach labels on products with varying heights.

Any other type of or more extensive application will be considered non-intended use. NOVEXX Solutions shall assume no liability for damage resulting from non-intended use of the machine.

Information and qualification

Ensuring the necessary qualification

➔ Only fully trained and authorised personnel are permitted to operate, adjust and maintain the machine.

➔ Service work must only be performed by qualified and appropriately trained technical specialists (service technicians) or the customer service department.

➔ Areas of responsibilities for operating and servicing the machine must be clearly defined and consistently observed.

➔ Personnel must also be regularly instructed in on-the-job safety and environmental protection.

Qualification for operation

The instruction provided for the operating personnel must ensure:

- that the operating personnel can use the machine independently and without danger.
- that the operating personnel can rectify minor operating faults (for example a paper jam) independently.

➔ At least 2 persons should be instructed in operation.

➔ Have a sufficient quantity of label materials available for tests and instruction.

Qualification for system integrators and service technicians

Knowledge required to install the device and perform service work must be demonstrated through appropriate qualification. Only service personnel with technical training are able to assess the tasks to be performed and recognise potential dangers.

- Knowledge acquired through technical training in mechanics and electronics (for example in Germany the training to become a mechatronics engineer).
- Participation in a technical training course for the corresponding device offered by the manufacturer.
- The service personnel must be acquainted with the functionality of the device.
- The system integrator must be acquainted with the functionality of the system into which the device is being integrated.

Tasks	System integrator	Operator	Service technician
Install the machine	X		
Connect	X		
Make settings	X		
Switch on/off	X	X	X
Insert/change material/ribbon	X	X	X
Application-related settings	X	X	X
Rectify minor operating faults [a]	X	X	X
Clean the machine		X	X
Rectify major operating faults [b]			X
Settings to the electronics/ mechanics			X
Repairs			X
 Manual:	Service manual	Operating Manual	Service manual, spare parts catalogue

[Tab. 1] An example of the distribution of tasks among different qualified personnel.

a) For example faults during label feeding
b) For example replacement of lamp or printhead

Making note of information

WARNING!

The device can only be operated safely and efficiently by complying with all of the requisite information!

➔ Carry out the installation, connection, programming, setting, and repairing of the machine exclusively in accordance with the specifications in this manual.

➔ Before beginning operation, read this operating manual and the operating manual of the dispenser/print-dispenser and follow all of the instructions.

➔ Observe all additional safety and warning information given on the device.

➔ Only technically knowledgeable persons are permitted to operate the device and make settings on it.

Any product liability and warranty claims will not be valid unless the machine is operated according to the instructions in the operating manual.

Keep product information at hand

This user manual

➔ must remain readily available for operating personnel at a location near to the machine.

➔ must be kept in legible condition.

➔ If the machine is sold, it must be made available to the new owner.

➔ The safety and warning symbols and messages on the machine must be kept in a clean and legible state. Replace any signs that are damaged or missing.

Safety functions

WARNING!

Danger of personal injury and property damage!

Without operational safety functions and protective equipment the LTP/LTPV may cause personal injury and property damage.

➔ Do not operate the machine without protective equipment.

➔ Do not operate the machine when the safety functions are deactivated.

Protective equipment

A separating protective device must be installed by the system integrator in compliance with the requirements of EN953. It could be a protective enclosure with a secured door, for example.

The separating protective equipment is not included in the scope of delivery of the machine.

Connecting an interlocking guard

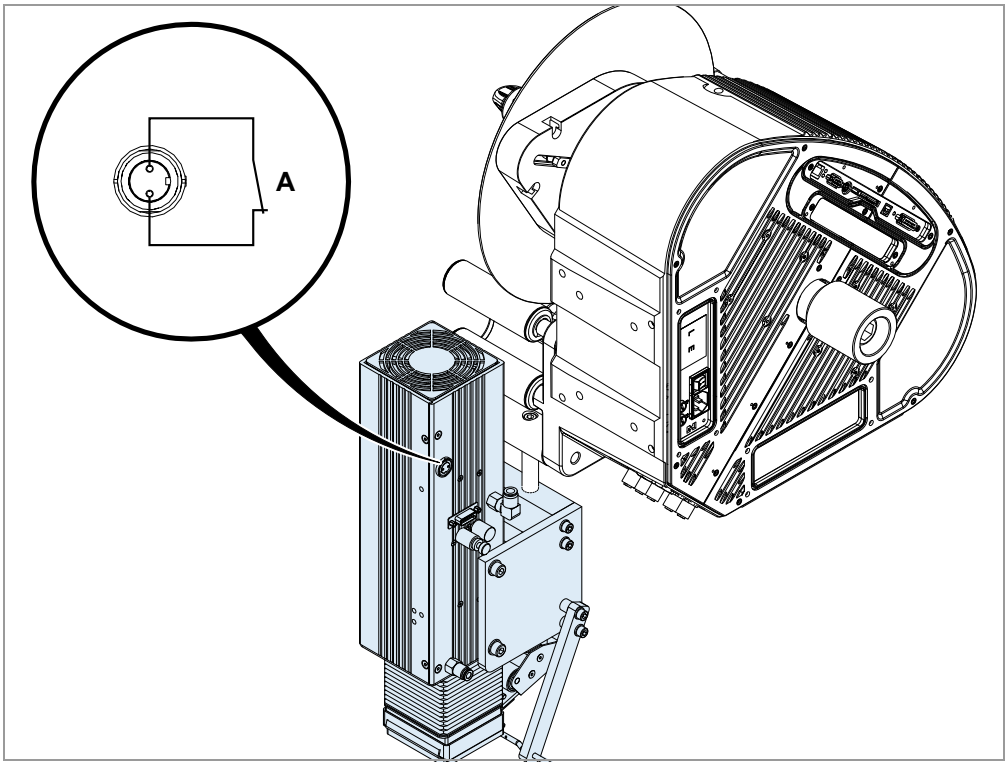
The illustrations in this chapter show exemplary a LTP at an ALS 20x RH labeller (pictured without cables and hoses). The following instructions apply equally to all other LTP/LTPV versions.

According to the EC machinery directive, the LTP/LTPV are *partly completed machines*. In order that the completed machine matches the health and safety requirements of the machinery directive, LTP/LTPV *must* be safeguarded against access by an appropriate safeguarding device [1] [3].

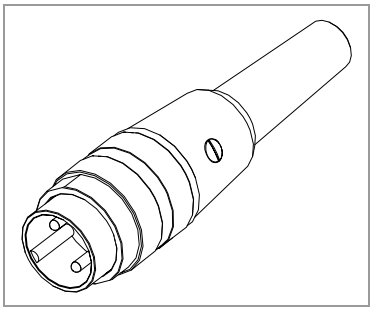
➔ Connect the interlock switch [3D] of the safeguarding device to the connector [2] delivered with the applicator.

➔ Plug the connector to the LTP/LTPV.

➠ Operation of the LTP/LTPV without the described safeguarding device shall be regarded as abnormal use. NOVEXX Solutions assumes no liability for damage due to abnormal use of the printer.

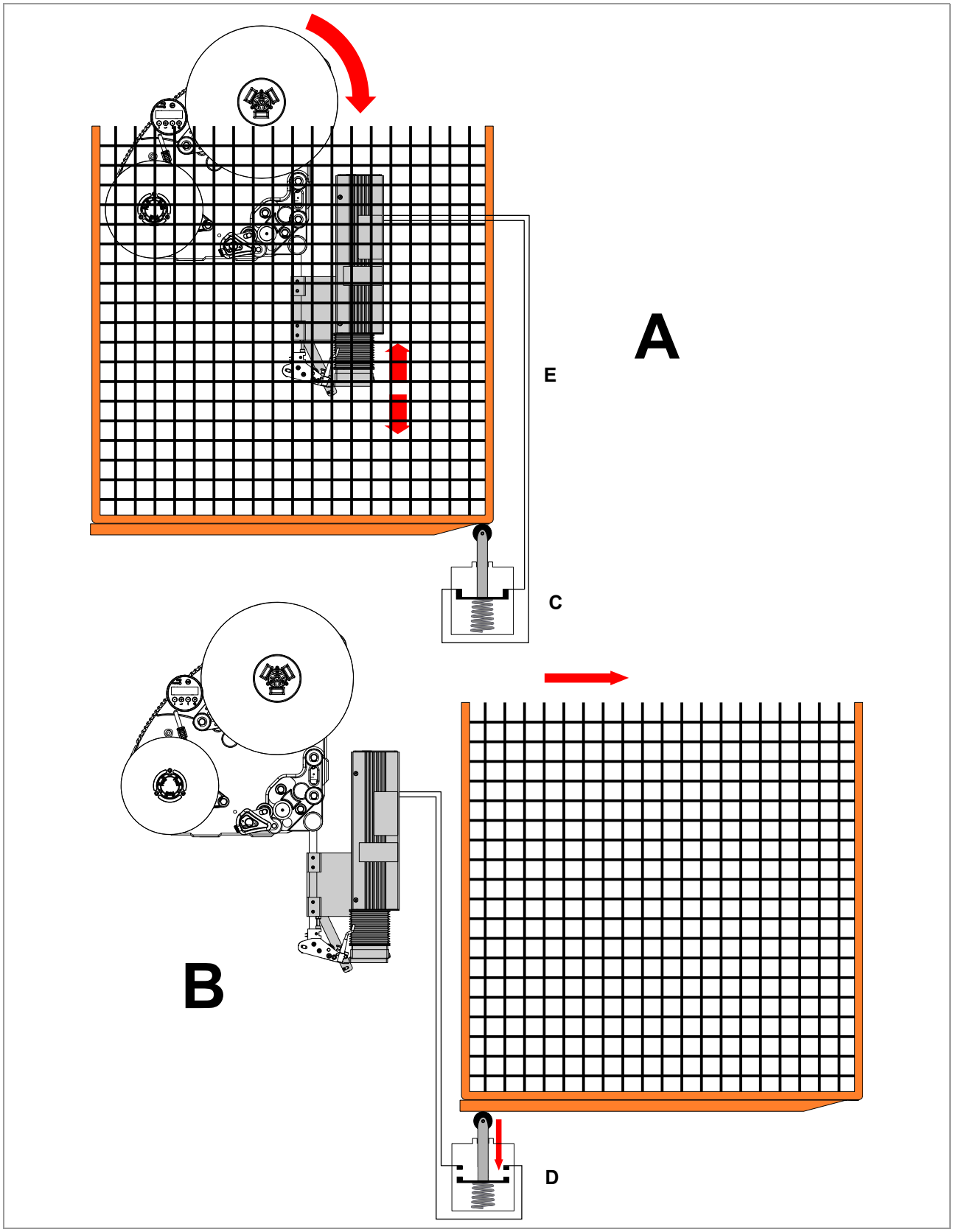


[1] Connecting the interlock switch (A) of the safeguarding device (or an emergency-stop switch) to a LTP/LTPV (at an ALS 20x).



[2] Plug that comes with the LTP/LTPV for connecting an interlock switch to the LTP/LTPV (article number: A102076).

1) Movable interlocking guard according to EN ISO 12100-1, 3.25.4



[3] Diagram of a movable interlocking guard:
A Protective guard closed. Interlock switch connected (C). Applicator is working.
B Protective guard open. Interlock switch not connected (D). Applicator stopped.

Emergency Stop

An external Emergency Stop device must be installed by the system integrator. It could be an Emergency Stop button located outside of the protective equipment, for example. The button must be pressed if a hazardous situation occurs or in the event of an emergency.

The external Emergency Stop device is not included in the scope of delivery of the machine.

Checking the safety functions

The following safety functions can be checked by the user or a service technician:

Safety function	Functional check
Emergency Stop	➔ Activate the Emergency Stop device (for example press the Emergency Stop button). The applicator must stop immediately.
Protective equipment	➔ Interrupt the safety switch circuit (for example open the safety door). The applicator must stop immediately.
Switching-on valve	➔ Switch on compressed air. The applicator foot moves from the end position *slowly* up to the home position. If the movement occurs abruptly, the switching-on valve must be adjusted by a service technician.

[Tab. 2] Overview: Checking the safety functions

Operating safety of the machine

Intended use

➔ The machine must only be used in accordance with the specifications in section Intended use 🗋 on page 8.

Installation, maintenance

WARNING!

Improper usage of the machine can lead to accidents, material damage and loss of production!

➔ When installing the machine, check for visible shipment damage. Immediately inform NOVEXX Solutions of any damage.

➔ When installing the machine, consider the admissible ambient conditions.

➔ When installing the machine, make sure that it can not tip over.

➔ When installing the machine, provide a supply disconnecting device and an emergency stop device.

➔ Install the supply disconnecting device and the emergency stop device in a way that they are easy reachable.

➔ Lay the connection cable and pneumatic hoses so that no one can trip over them.

➔ Check if all safety functions are functioning properly.

➔ Only put the machine into operation if it is in flawless condition.

➔ Only perform alterations or conversions to the machine with the consent of NOVEXX Solutions‘ customer service.

➔ Max. admissible operating air pressure: 6 bar

➔ The applicator must only be connected with other machines if they meet the requirements of a SELV circuit (Safety Extra-Low Voltage circuit) in accordance with EN 60950.

➔ Fasten the pneumatic hoses in place to prevent them from whipping.

➔ Replace faulty pneumatic hoses immediately.

➔ Only put the machine into operation after at least one successful test run has been completed.

➔ Only use original replacement parts.

WARNING!

Danger of crushing between applicator and dispensing edge as well as between applicator and conveyor!

➔ Avoid access to the running machine by installing higher-level protective guards [a].

a) Movable, separating guards according to EN 953

Warning of injuries due to electrical shock

WARNING!

The machine to which the applicator is attached works with mains voltage! Contacting electrically live components can cause lethal electrical shocks and burns.

➔ Switch the machine off before cleaning and servicing.

➔ Keep the machine dry.

➔ If a liquid gets into the machine, switch off the machine immediately. Notify a service technician.

➔ The applicator must only be connected with other machines if they meet the requirements of a SELV circuit (Safety Extra-Low Voltage circuit) in accordance with EN 60950.

➔ In case of emergency switch off the machine.

Warning of injury hazards from mechanical components

⚠	WARNING!
	Danger of crushing between the machine and conveyor equipment and between movable parts of the applicator! ➔ The machine may only be operated with higher-level protective equipment. ➔ Never remove or bypass the protective equipment that is designed to prevent reaching in while the machine is in operation.
	Danger of injury due to moving and rapidly rotating parts! ➔ Maintain a safety clearance from the machine when it is in operation. ➔ Never reach into a machine that is running. ➔ Switch off the machine before making any mechanical adjustments. ➔ Keep clear of the area around moving parts even when the machine is stopped if there is any possibility of the machine starting up.
	Entanglement hazard! ➔ When working in the vicinity of machines in operation, do not wear ties, loose clothing items, jewellery, wrist watches or similar objects on your body. ➔ Long hair must be kept in a hair net and must not be worn loose.
	Tripping hazard! ➔ Lay the connection cable and pneumatic hoses (if fitted) so that no one can trip over them.

Every time before starting production

➔ Check the safety functions to ensure they are working properly (see Checking the safety functions 🗋 on page 13).

➔ Check the machine for visible damage. Report defects that are discovered immediately.

➔ Use personal protective equipment properly, for example wearing a hair net.

➔ Remove material and objects that are not required from the working area of the machine.

➔ Ensure that only authorised persons remain in the working area of the machine.

➔ Ensure that no one can be endangered by the machine starting up.

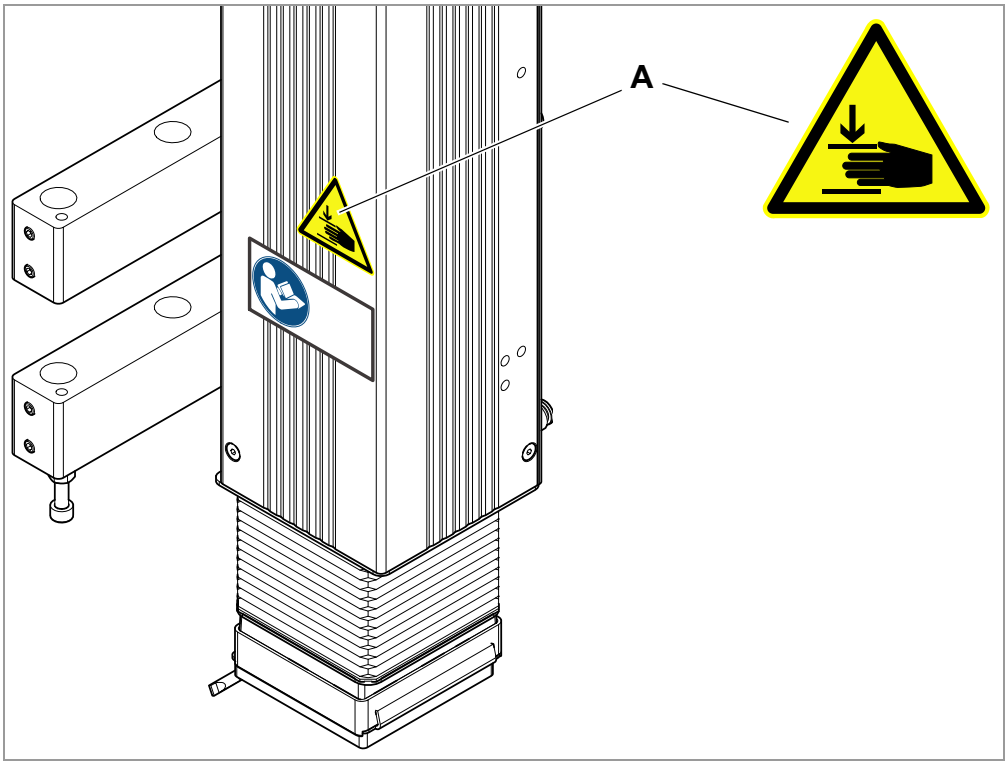
Warning symbols on the machine

CAUTION!

Warning symbols on the machine provide important information for the operating personnel.

➔ Do not remove warning symbols.

➔ Replace missing or illegible warning symbols.



[4] Warning note on the LTP/LTPV.

Meaning of the warning symbols:

Warning symbol	Meaning	Order No.
	The warning symbol "Danger of crushing" warns of dangerous movements of the device that could lead to crushing. Switch off the device previously.	A103530

[Tab. 3] Meaning of the warning symbols

Product description

TECHNICAL DATA

Label stock

Label type	Self-adhesive (Papier, PE, PP, PVC, PA)
Label width	LTP: 30-80 mm LTPV: 12-80 mm
Label length	LTP: 30-80 mm LTPV: 12-80 mm

Performance data

Labellling rate	max. 100 / min [a]
Stroke length	max. 200 mm
Application tolerance	±1 mm
Application angle	90° ± 3°
Product speed	max. 20 m/min

a) At a stroke length of 20 mm and a dispensing speed of 40 m/min.

Dimensions

Weight	4.5 kg
W x H x D	100 x 250 x 450 mm

Connections

Air pressure	4-6 bar (max. admissible: 8 bar)
Air consumption	0.3 liter/stroke
Power consumption	15 VA
Supply voltage	24 VDC

Ambient conditions

Operating temperature	5 to 40°C
Storage temperature	0 to 70°C
Humidity	30 to 80%, non condensing
Noise	< 70 dB(A)
Protection class	IP21

OVERVIEW

Product name

LTP/LTPV = Light Touch Pneumatic / Light Touch Pneumatic Vacuum

Light Touch

Light Touch means that the applicator reverses shortly after it encounters resistance, i.e. a product. This has the advantage that it also enables products of different heights to be labeled without needing to adjust the applicator.

Pneumatic

The LTP/LTPV is driven by compressed air.

Vacuum

(LTPV only) The label is held to the plastic plate on the underside of the applicator by suction and the air stream of a support air jet.

In the LTP, the suction onto the suction plate is generated by a blower that is mounted at the top end of the applicator housing.

Intended Use of System

The LTP/LTPV applicator is a device for automatic attachement of self-adhesive labels, which are supplied to the applicator by one of the following label dispensers or print & apply machines.

Dispensers:

- ALS 20x
- ALS 256

Print & apply machines:

ALX 92x

The LTP/LTPV is firmly attached to the respective machine. In contrast to direct dispensing from the dispensing edge of the machine onto the product, the LTP/LTPV can bridge distances of up to 20 cm between dispensing edge and product. The „light touch“ function enables the LTP/LTPV to attach labels on products with varying heights.

Installation position

Permissible installation positions for the LTP/LTPV are:

- *Vertical*, if application takes place from top to bottom (the product is located below the printer/applicator); Application from bottom to top only if a dust protection, specific to the application, is supplied by the integrator.
- *Horizontal* (the product is located next to the printer/applicator)

Configurations

The LTP/LTPV is available in both right-handed and left-handed versions. LTP/LTPV and dispenser must be of the same handedness, that is both must be RH or LH versions.

Furthermore, the LTP/LTPV is available in two version:

- For mounting to the base plate of an ALX 92x
- For mounting to the dispensing edge holder for L-shape dispensing edges at the following machines: ALS 20x/256

System requirements

Compressed air

Compressed air connection with 4-6 bar must be available. If the pressure is higher, a pressure reducer must be installed (available as accessory, article no. A9398).

ALX 92x

- ALX 92x with standard dispensing edge and firmware version 3.40 or higher.
- Installed applicator interface (optional) with firmware version 1.03 or higher. If the applicator interface was retrofittet, pay attention that the D-Sub 15 connector for Avery applicators (top side of the front hood) is available.

ALS 20x

- ALS 204, ALS 206 or ALS 256 with fixed L-dispensing edge and firmware version 1.10 or higher.
- Control by standard signal interface or by applicator interface (firmware version 1.18 or higher). The applicator interface is available optionally.

➠ Displaying the firmware version: SERVICE DATA > MODULE FW VERS.

➠ Displaying the firmware version of the applicator interface: SERVICE DATA > MODULE FW VERS. > Applicator int.

Functionality

The LTP/LTPV applicator is an additional module to be mounted to one of the above named label dispensers or print & apply machines (see chapter Intended Use of System 🗋 on page 18). The device takes over self-adhesive labels from the dispensing edge of the dispenser/print & apply machine, moves each of the labels to the product in a linear movement and attaches it to the product.

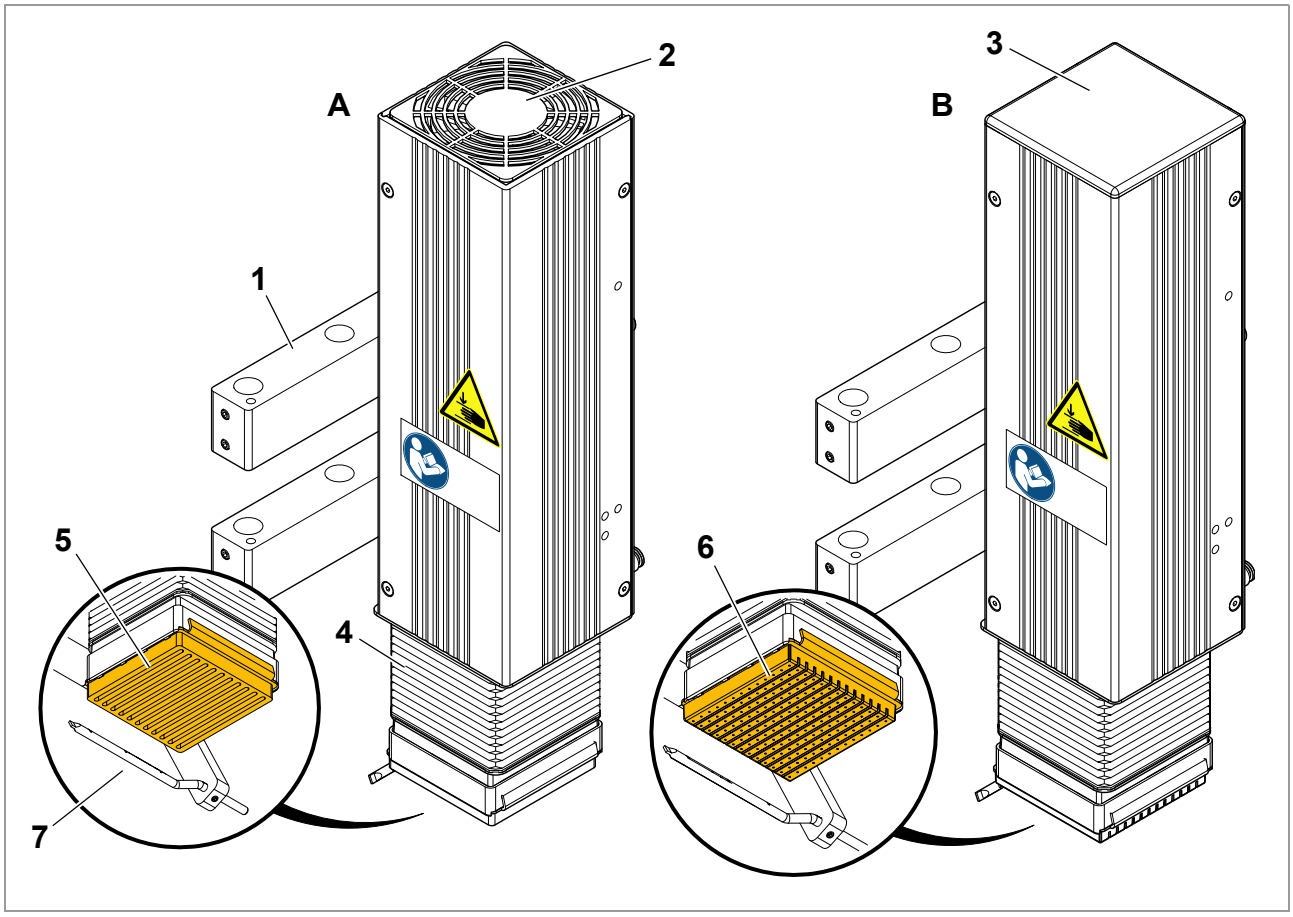
The label is held by a pressure plate that is driven by a pneumatic cylinder between home position and end position.

In home position, the label is taken over from the dispenser or the print & apply machine. The arrival of the pressure plate in home position is detected by a sensor at the pneumatic cylinder of the applicator. The label is peeled off the backing paper by the dispensing edge and is pushed under the pressure plate, where it is sucked on by a vacuum. Additionally, the label is blown onto the pressure plate by an air stream from the support air nozzle. Afterwards, the pressure plate moves to the end position, where the label is attached to the product.

The arrival in the end position is detected by 4 sensors which are integrated in the pressure plate. The sensors are activated, as soon as the pressure plate presses slightly against the product. This „light touch“ function enables the LTP/LTPV to label products with varying heights and especially sensitive products.

Component overviews

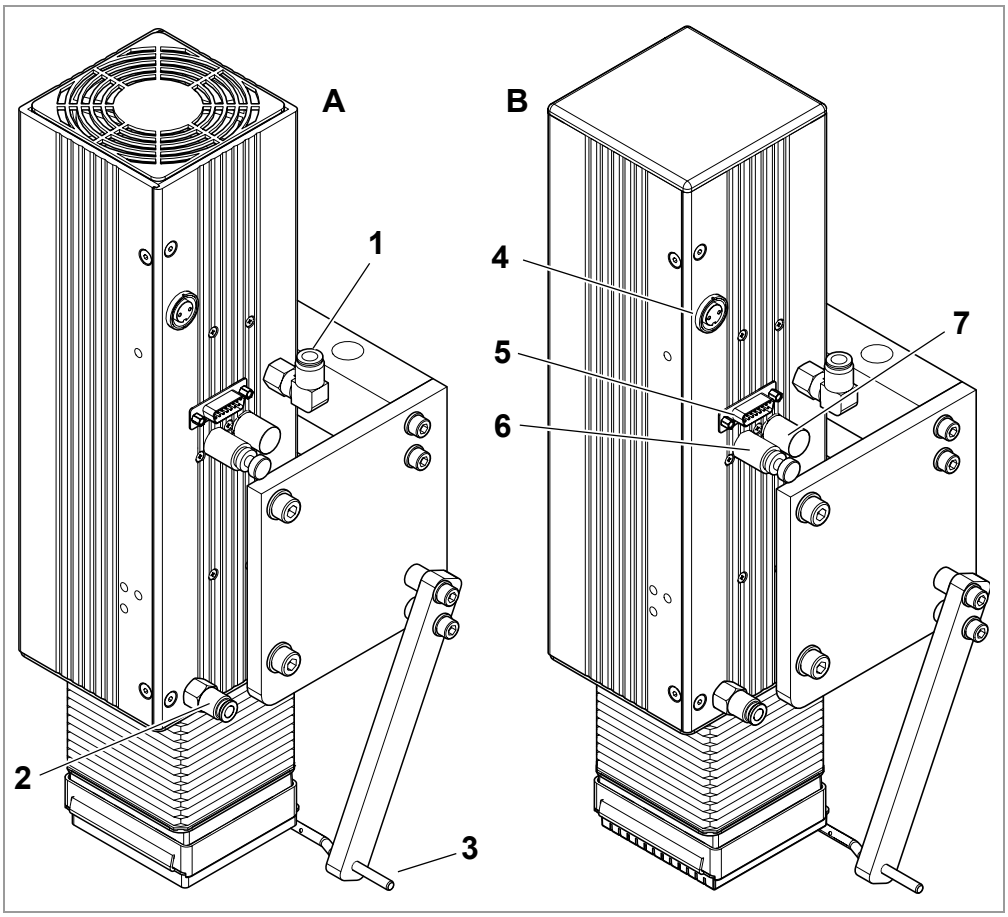
LTP/LTPV front side



[5] Front side LTP (A) and LTPV (B) (with mounting bracket for ALS 20xRH).

No.	Designation
1	Mounting bracket for ALS 20x
2	Blower (LTP only)
3	Housing cover (LTPV only)
4	Gaiter
5	Pressure plate (foarm, LTP only)
6	Pressure plate (plastic, LTPV only)
7	Support air nozzle

LTP/LTPV rear



[6] Rear view LTP (A) and LTPV (B) (with mounting bracket for ALS 20xRH).

No.	Designation
1	Compressed air connection
2	Support air connection
3	Support air nozzle
4	Connection for interlock switch
5	Connector ALX/ALS
6	Pressure regulator
7	Pressure indicator

Setup

ASSEMBLY

WARNING

Risk of tripping!

➔ Lay cables and compressed air hoses in a way that nobody can stumble over it.

WARNING!

Risk of injuries caused by lashing pneumatic hoses.

➔ Fix pneumatic hoses against lashing.

➔ Immediately replace defective pneumatic hoses.

Preparing the connection cable for the interlock circuit

The LTP/LTPV comes with a plug [7] that is intended for connecting an interlocking guard.

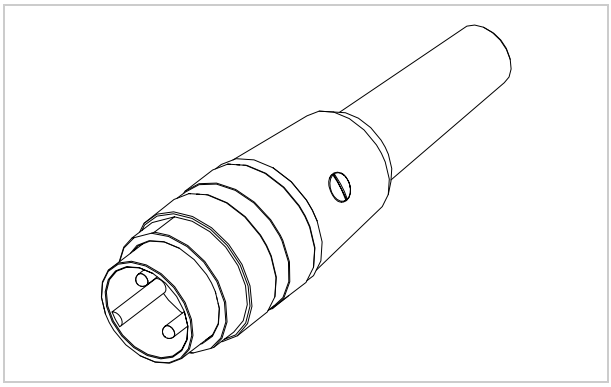
Tool

Small screwdriver (0.6x3.5 mm)

Assembly

➔ Connect the plug [7] to the interlock switch, which is part of the interlock circuit.

See chapter Connecting an interlocking guard on page 11.



[7] Plug for connecting the interlock circuit (comes with the applicator).

Mounting to ALX 92x

Tools

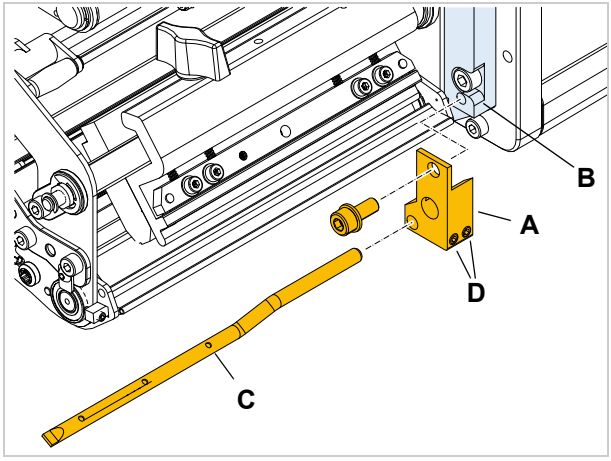
- Hex socket screwdriver 2/4/6 mm
- Socket spanner SW 4.5/5

Installing the support air nozzle

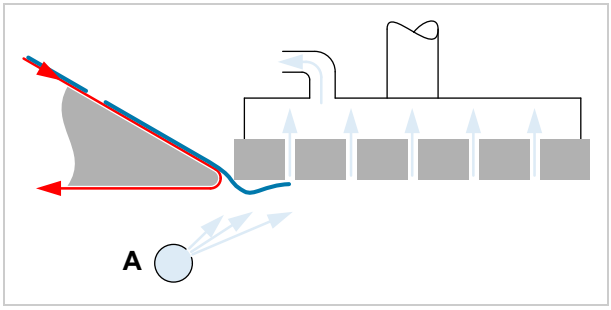
1. Switch-off the ALX 92x.
2. Screw the the support air nozzle holder [8A] at the base plate corner of the print module [8B].
3. Push the support air nozzle [8C] into the hole in the holder and adjust it.

   ➠ On the rear side, the support air nozzle must project so far that a hose can be pushed onto the end (appro. 1 cm).

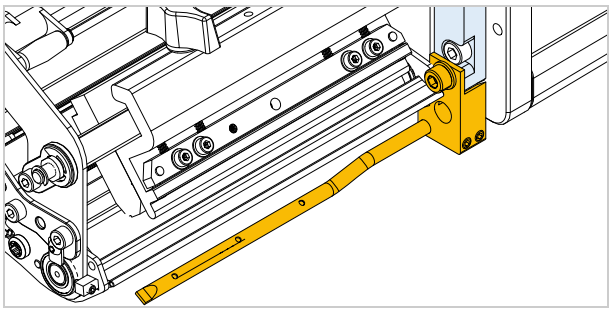
   ➠ Rotate the support air nozzle so that the air beam supports the dispensed part of the label, until the label is sucked to the pressure plate at the applicator [9]..
4. Tighten the set screws [8D].



[8] Installing the support air nozzle.



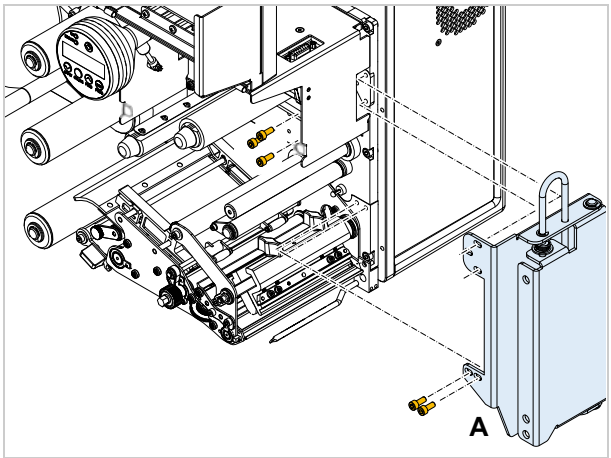
[9] Air stream direction at the support air nozzle (A).



[10] Support air nozzle ready installed.

Installing the swivelling unit

➔ Screw the swivelling unit [11A] to the base plate of the ALX 92x (5x M5x12).

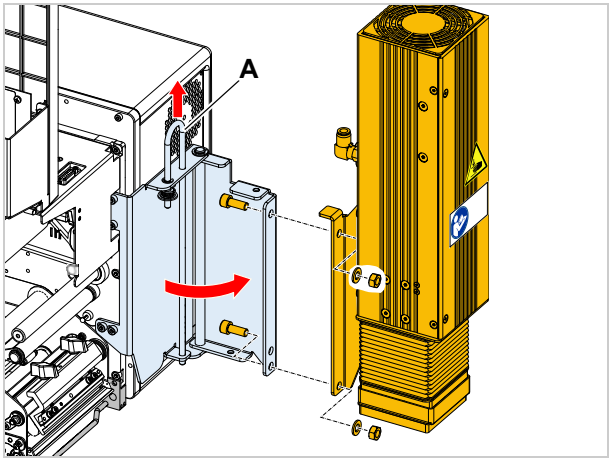


[11] Installing the swivellling unit (A).

Installing the applicator

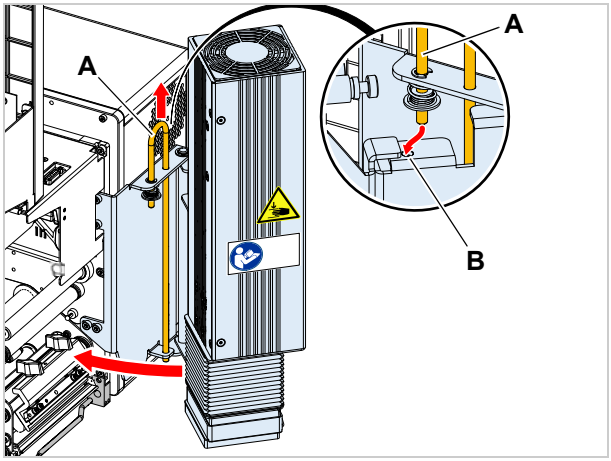
➠ Connect the compressed air supply to the applicator before installing it. The air pressure holds the pressure plate in the home position.

1. Pull up the locking rail [12A] at the swivelling unit and open the unit.
2. Screw the LTP/LTPV to the swivelling unit [12] (2x M8x20 with nuts and washers).



[12] Screw the applicator to the swivelling unit.

3. Svivel the applicator towards the machine. Pull up the locking rail [13A] and let it engage in the holes [13B] (top and bottom).



[13] Swivel the applicator to work position and let it snatch in.

4. Plug the cable to LTP/LTPV and ALX 92x [14A] (article no. A3744).
5. Connect the interlock circuit of the protective guard to the LTP/LTPV [14B].

   See chapter Connecting an interlocking guard 🗋 on page 11.

   ➠ Connecting an interlock circuit is mandatory. The LTP/LTPV must not and cannot be operated without.
6. Install the on-off valve.

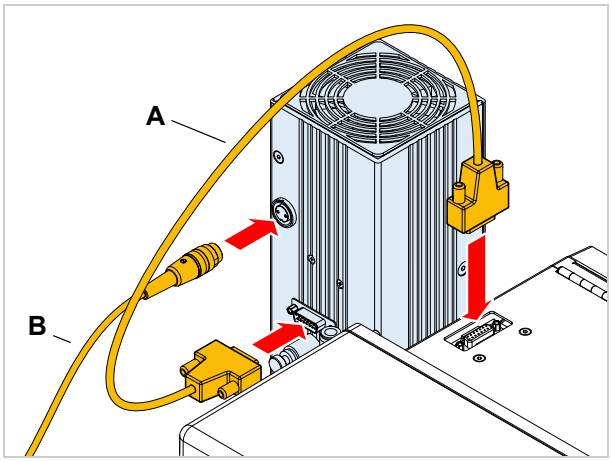
   See chapter Installing the on-off valve 🗋 auf Seite 26.
7. If the comressed air pressure is higher than 6 bar: Install the pressure regulator.

   See chapter Compressed air 🗋 on page 27.
8. Connect the compressed air supply.

   See chapter Connecting the supply hose 🗋 on page 27.
9. Switch-on the ALX 92x.
10. Make settings in the parameter menu.

    See chapter Parameter settings 🗋 on page 29.
11. Adjust the LTP/LTPV.

    See chapter Settings 🗋 on page 29.



[14] Connect the applicator

Mounting to ALS 20x/256

Tools:

- Hex socket screwdriver 2/3/4/5/6 mm
- Spanner SW10

Assembly

1. Switch-off the ALS 20x.

   ➠ Mark the lateral position of the dispensing edge (material zero-line), before disassembling it.

2. Unscrew 1 screw [15A] and take off the dispensing edge [15B].
3. Unscrew 2 screws [15C] and remove the lower cross arm [15D].
4. Push the LTP/LTPV onto the holding rods and fasten it there using the 4 locking screws [15E].
5. Remount the dispensing edge.

   ➠ Position the dispensing edge as marked before.

6. Connect the cable to LTP/LTPV and ALS 20x.

   ➠ Connection to standard signal interface [16A] (article no.: A7074)

   ➠ Connection to applicator interface [17A] (article no.: A8752)

7. Connect the interlock circuit of the protective guard to the LTP/LTPV [16B].

   See chapter Connecting an interlocking guard 🗋 on page 11.

   ➠ Connecting an interlock circuit is mandatory. The LTP/LTPV must not and cannot be operated without.

8. Install the on-off valve.

   See chapter Installing the on-off valve 🗋 auf Seite 26.

9. If the comressed air pressure is higher than 6 bar: Install the pressure regulator.

   See chapter Compressed air 🗋 on page 27.

10. Connect the compressed air supply.

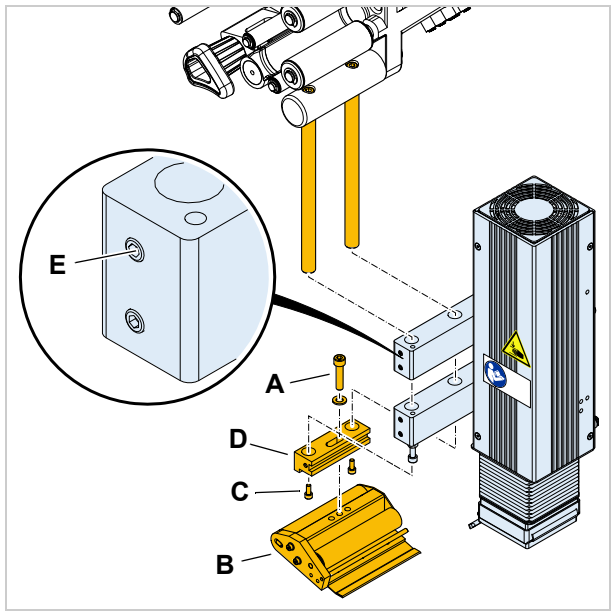
    See chapter Connecting the supply hose 🗋 on page 27.

11. Switch-on the ALS 20x.
12. Make setting in the parameter menu.

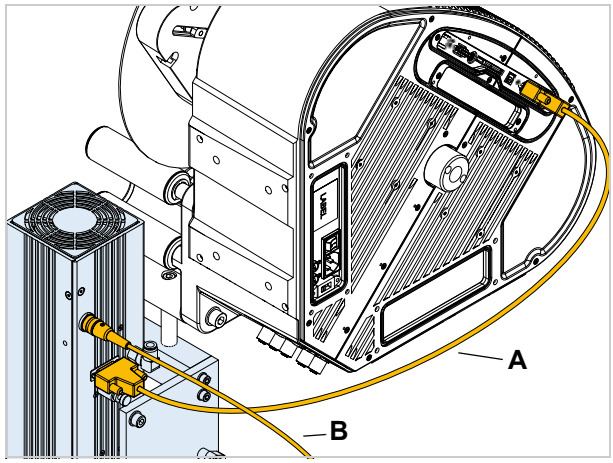
    See chapter Parameter settings 🗋 on page 29.

13. Adjust the LTP/LTPV.

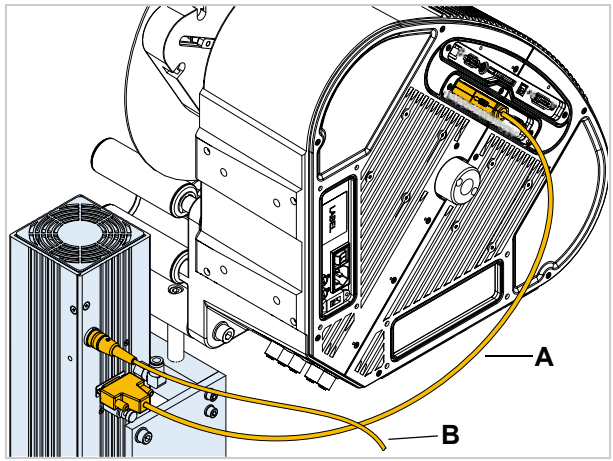
    See chapter Settings 🗋 on page 29.



[15] Mounting the LTP/LTPV to an ALS 20x.



[16] Connecting to an ALS 20x (standard signal interface).



[17] Connecting to an ALS 20x (optional applicator interface).

Installing the on-off valve

WARNING

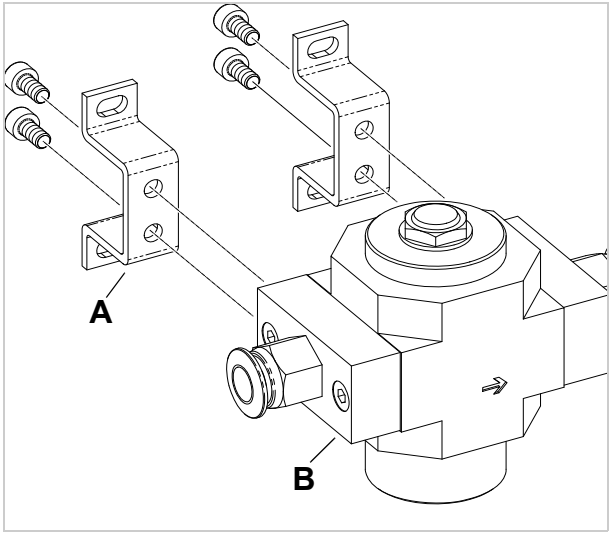
High risk of getting fingers or hands crushed due to abruptly backwards moving vacuum plate.

➔ Set the on-off valve as described below.

➔ Be cautious when switching on the compressed air.

The applicator comes with an separate on-off valve, which can be wall-mounted directly or by means of mounting brackets [18A].

The mounting brackets can be ordered at Festo (www.festo.de) (order no.: 159638).



[18] Mounting brackets (A) for attaching the on-off valve (B).

Compressed air

Connecting the supply hose

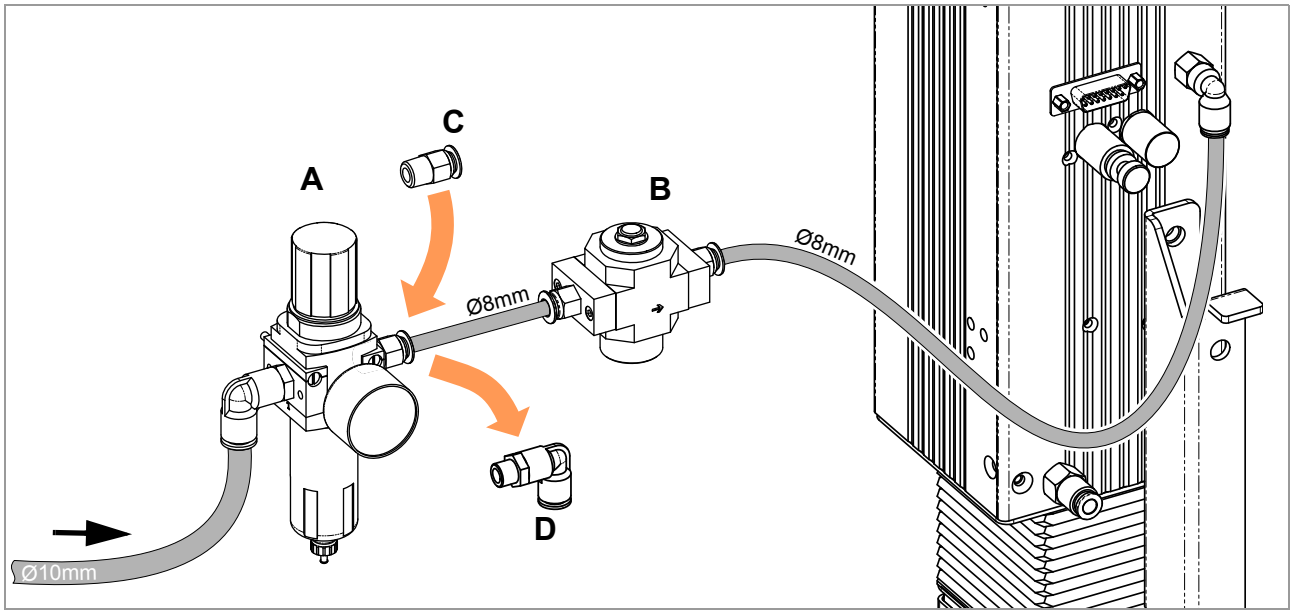
If the pressure of the compressed air is higher than 6 bar, a pressure regulator has to be fitted upstream, which limits the pressure to 6 bar.

➠ The compressed air connections are established by plugging the air hoses into the relevant push-in fittings.

➠ Mind the correct hose diameters [19]!

Installing the optional pressure regulator [19A]:

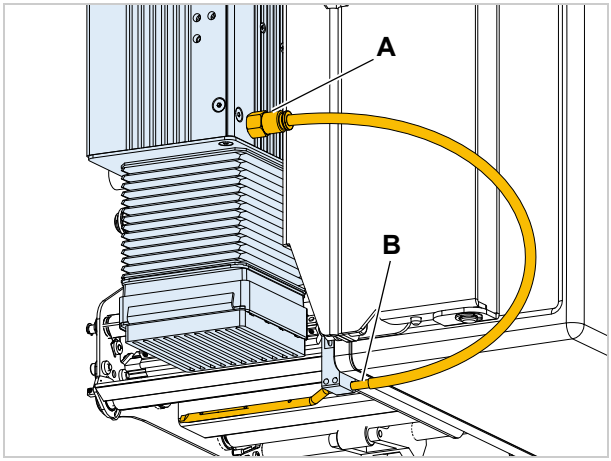
1. At the pressure regulator: exchange the push-in L-fitting [19D] into a push-in fitting [19C] (order separately).
2. Install the pressure regulator [19A] as illustrated (order separately).
3. Install the on-off valve [19B] between pressure regulator and applicator (valve comes with the applicator).



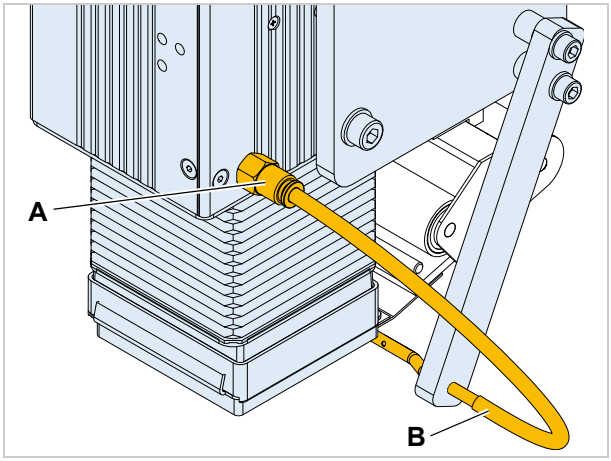
[19] Compressed air supply for LTP/LTPV with pressure regulator (A) and on-off valve (B).
A Pressure regulator (article no. A9398)
B On-off valve (article no. A100555)
C Push-in fitting (article no. A100556)
D Push-in L-fitting (article no. A8806)

Connecting the support air nozzle

➔ Connect the hose (∅ 8 mm) to connector [20A][21A] and support air nozzle [20B][21B].



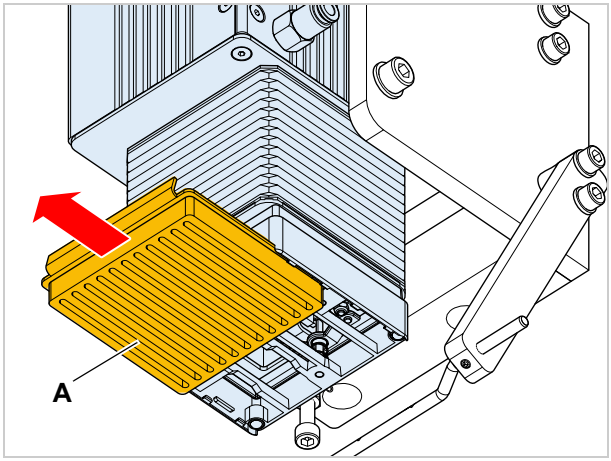
[20] Support air nozzle ready connected (LTP at ALX 92x).



[21] Support air nozzle ready connected (LTP at ALS 20x).

Exchanging the pressure plate

➔ Pull out the pressure plate [22A] to the side.



[22] Pulling out the pressure plate.

SETTINGS

Parameter settings

ALX 92x

The following parameters control the operation of the ALX 92x and LTP/LTPV. You must set these parameters before using the unit for the first time:

Parameter	Setting
APPLICATOR PARA > Applicator type	“LTP - LTPV“
APPLIKATOR PARA > Apply mode	Depends on application (Default setting = „After start sig.“)
DISPENSER PARA > Dispenseposition	Set the dispense position so that the label is just dispensed (that it doesn´t adhere to the backing paper any more)

[Tab. 4] Settings for firmware versions up to 6.37 (AI: 1.23)

For more information on how to set the parameters, refer to the service manual under Info-Printouts and Parameters.

ALS 20x

The following parameters control the operation of the ALS 20x with LTP/LTPV. You must set these parameters before using the unit for the first time:

For more information on how to set the parameters, refer to service manual of the respective machine type.

Punching the Vacuum Applicator Plate

WARNING!

Danger of cuts and crush injuries especially at the following points:

- Between moveable pressure plate and dispensing edge.
- Between vacuum plate and conveyor belt, if present.

For this reason pay attention to the following when triggering the applicator for test or setup purposes...

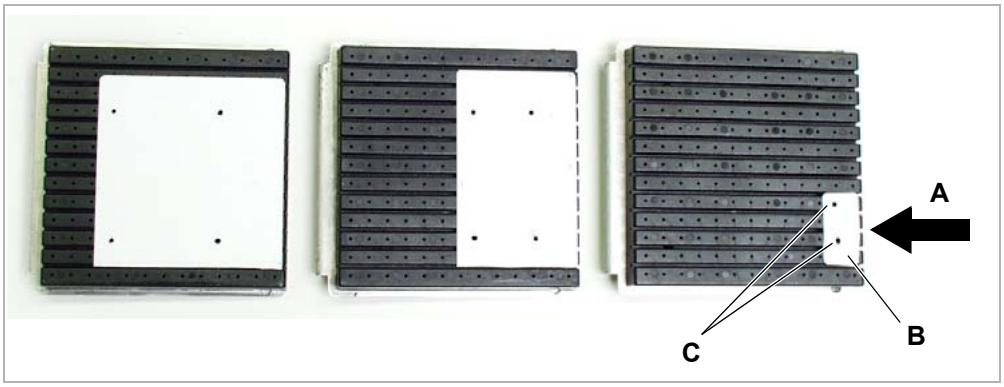
➔ keep a sufficient distance.

➔ don´t touch the applicator.

Because the LTPV creates a strong vacuum but only a weak air stream at the applicator plate, the number of air openings has to be individually fitted to the labelling material that is used.

The openings in the plate are pre-formed – they simply have to be punched in the required arrangement using the supplied tool.

1. Mark the exact position of the dispensed label on the vacuum plate.
2. Punch some of the pre-formed holes in the area which is covered by the dispensed label [23].



[23] Punching the air holes for different label shapes. The black dots on the labels mark the positions for the air holes.

A Dispense direction
B Label
C Punched holes

➠ The punched holes must cover the whole area, but not all of the covered holes must be punched. The less holes are required to hold the label under the vacuum plate, the better! *Don´t punch all* of the holes in the label area!

➠ Under no circumstances, you may punch holes outside the area covered by the label, otherwise there will be no vacuum!

➠ Avoid punching holes very close to the label edge!

3. Proceed some dispensing tests and check if the dispensed label is sucked to the vacuum plate properly. If not, punch some additional holes (not all!).
4. Repeat steps 2 and 3 until the labels stick to the vacuum plate properly.

Positioning the pressure plate

Notes

Checking the position of the pressure plate absolutely requires dispensing tests (print-dispense tests with ALX 92x, dispensing by pressing the Apply button is unsufficient!).

WARNING!

Danger of cuts and crush injuries especially at the following points:

- Between moveable pressure plate and dispensing edge.
- Between vacuum plate and conveyor belt, if present.

For this reason pay attention to the following when triggering the applicator for test or setup purposes...

➔ keep a sufficient distance.

➔ don´t touch the applicator.

Tools

- Hex socket screwdriver 4 mm
- Spannner SW 10/13/17
- Calliper gauge
- Screwdrivers, small and medium size

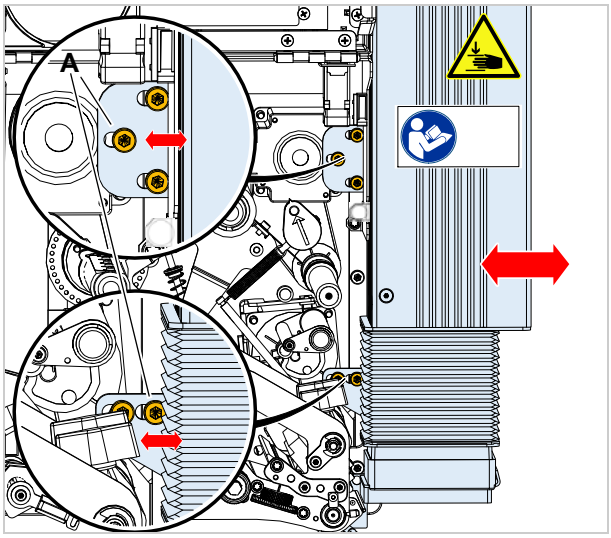
Setting the distance to the dispensing edge (ALX 92x)

Between pressure plate and dispensing edge must be an approx. 2 mm wide gap [25A].

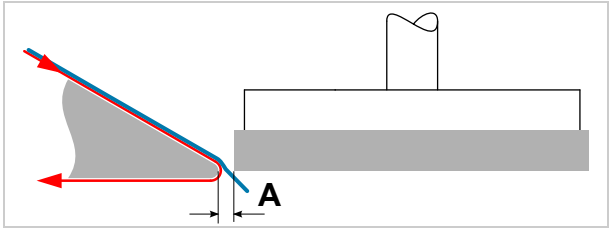
➠ Setting is only necessary with ALX 92x.

Setting the gap width:

1. Switch-off the ALX 92x, disconnect the compressed air supply.
2. Loosen the holding screws [24A] of the swivel unit.
3. Shift the applicator until the gap between pressure plate and dispensing edge is measures approx. 2 mm.
4. Tighten the screws.



[24] Setting the distance to the dispensing edge.



[25] Distance between dispensing edge and pressure plate schematic.

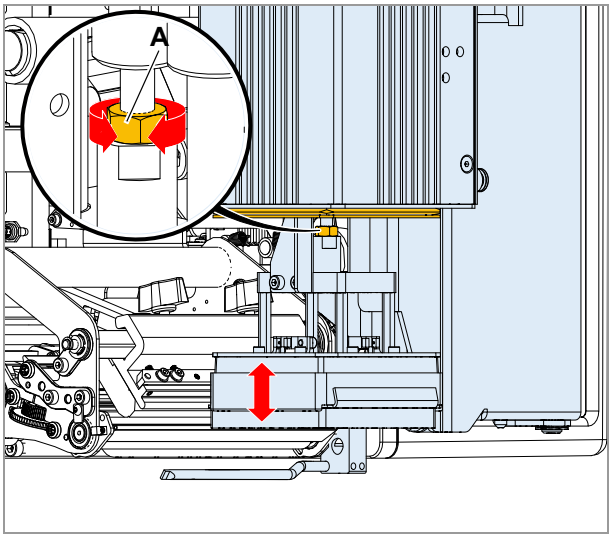
Setting the upper limit

At the upper limit, the pressure plate must be positioned approx. 2 mm below the dispensing edge.

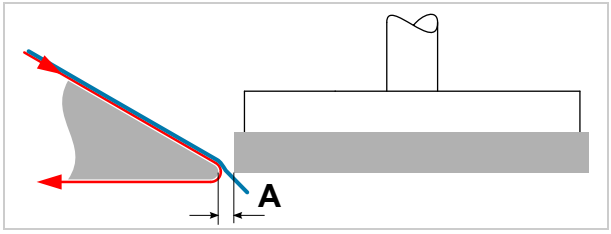
Setting:

1. Switch-off the ALX 92x, disconnect the compressed air supply.
2. Loosen the gaiter at its bottom end (velcro straps).
3. Elongate the applicator manually.
4. Loosen the counter nut [26A].
5. Turn the plunger in, respectively out, until the pressure plate is positioned approx. 2 mm below the dispensing edge.

   ➠ The 2 mm rule is only a reference value. The general setting rule is: Set the applicator position as low as possible, so that the dispensed label is just pushed under the pressure plate [27].
6. Tighten the counter nut.
7. Fix the gaiter.

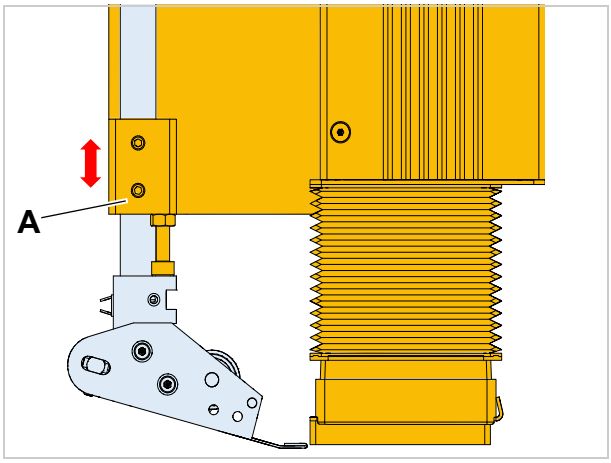


[26] Setting the upper limit.



[27] Label path between dispensing edge and pressure plate.

➠ If the LTP/LTPV is installed at an ALS 20x/256, the hight offset can alternatively be set by loosening the clamp blocks at the applicator [28A].



[28] Setting the upper limit (LTP at ALS 20x).

Sensors

Function test touchdown-sensor

- Applicator control via optional applicator interface [1]:
  The „Touch-Down“ LED [29B] lights up, if the end position is reached.
- Applicator control via standard signal interface:
  Test the signal inputs via parameter SERVICE/DIAGNOS. > Sensor Test, see service manual ALS 20x, chapter „Repair“ > „Test“ > „Sensor test“.

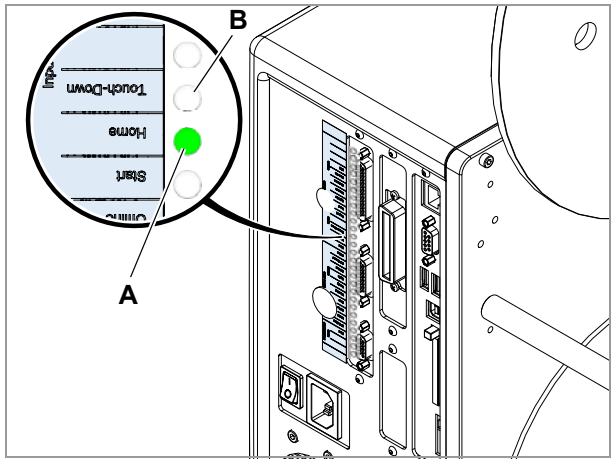
Function test home position sensor

- Applicator control via optional applicator interface[1]:
  The „Home“ LED [29A] lights up, if the end position is reached.
- Applicator control via standard signal interface:
  Test the signal inputs via parameter SERVICE/DIAGNOS. > Sensor Test, see service manual ALS 20x, chapter „Repair“ > „Test“ > „Sensor test“.

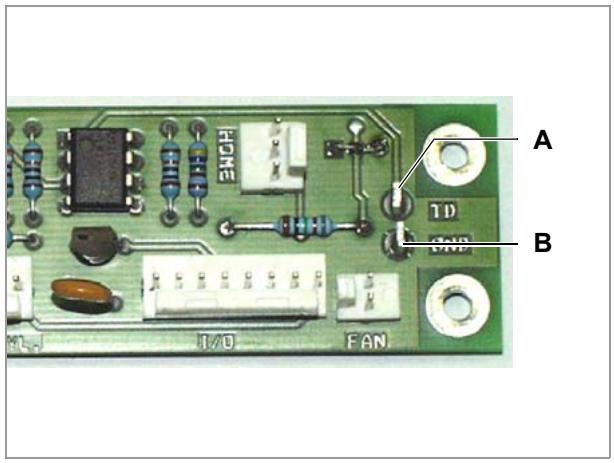
Function test touchdown sensor with old board (-->10/2008)

➔ Measure the voltage between both test points [30A][30B] on the applicator board using a volt meter:

- Voltage < 10 V:
  Sensor open = no touchdown signal
- Voltage > 14 V:
  Sensor interrupted = touchdown signal
- Voltage between 10 V and 14 V:
  Switching hysteresis = last signal value stays preserved



[29] LED (A) indicating the active home signal at the applicator interface (ALX 92x).



[30] Test points on the applicator board version that was used until 10/2008.

1) Standard with ALX 92x, optional with ALS 20x

Valves

WARNING!

Danger of cuts and crush injuries especially at the following points:

- Between moveable pressure plate and dispensing edge.
- Between vacuum plate and conveyor belt, if present.

For this reason pay attention to the following when triggering the applicator for test or setup purposes...

➔ keep a sufficient distance.

➔ don´t touch the applicator.

Setting the on-off valve

WARNING

High risk of getting fingers or hands crushed due to abruptly backwards moving vacuum plate.

➔ Set the on-off valve as described below.

➔ Be cautious when switching on the compressed air.

The on-off valve [31] is a safety relevant part of the applicator. It prevents an abrupt backward movement of the applicator plate, when the compressed air is switched on.

The on-off valve is factory-set. The setting is fixed with locking varnish.

➠ If the vacuum plate of the applicator moves back to the home position very abruptly, as soon as the compressed air is switched on, the on-off valve is not set correctly or it is defective.

➔ A *faulty setting* has to be corrected as described below.

➔ Exchange a *defective valve*. Set the new valve as described below (not required, if the valve was ordered at Avery Dennison).

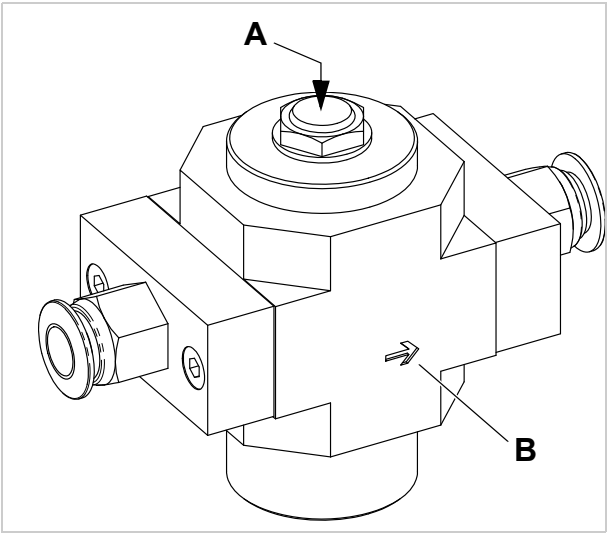
Tools:

- Screwdriver, small (0.6x4 mm9
- Screw locking varnish

Setting:

1. Turn set screw [31A] up to the limit in direction „slow“.
2. Plug in the supply air hose.

   ➠ The arrow [31B] at the valve shows the flow direction.



[31] On-off valve for LTP(V) (article no.: A100555)

3. Set the supply air pressure to 6 bar.
4. Slowly turn out the set screw, until the supply air starts streaming through the valve.
5. Turn out set screw ½ turn further.
6. Switch off the supply air. Pull off the supply hose.
7. Lock set screw with locking varnish.

Setting the vacuum at the pressure plate (LTPV)

The suction strength at the pressure plate can be set with set screw [32A]. The standard setting is „maximum suction“.

➠ Labels with a very smooth surface may require a slightly reduced suction. Otherwise, the labels will not slide onto the suction plate very well.

➠ The hole can also be found on LTP type applicators, but there is no valve behind!

Setting the support air

The strength of the support air can be set with set screw [32B].

Butterfly valves

A *Support air.* Use this valve to set the strength of the support air stream from beneath the dispensing edge.

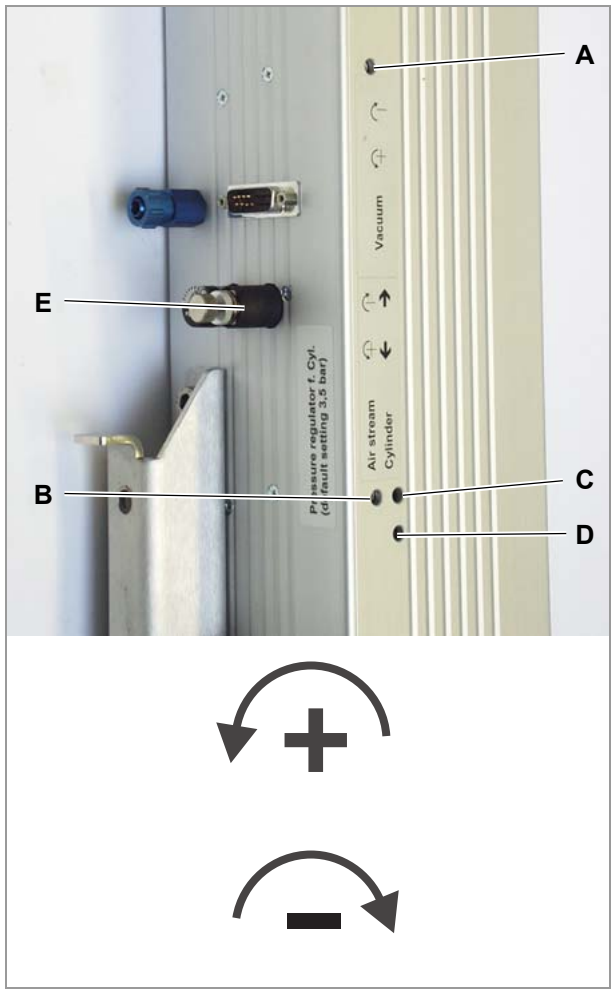
B *Upward speed* of the pneumatic cylinder. Use this valve to set how quickly the application returns to the home position.

C *Downward speed* of the pneumatic cylinder. Use this valve to set the speed at which the applicator moves downward.

➠ If the downward speed is too high, the touch-down mechanism of the applicator plate may hit through (audible as a clacking sound, when the applicator reaches its bottom end position). In this case, reduce the downward speed.

D *Pressure regulator* for the pneumatic cylinder. The pneumatic pressure is a measure for the applicating force. Set the regulator to 3-4 bars. The minimum pressure is 2.5 bars!

➠ Adjust the pressure from below - that is, first set a low value and then increase it to the required setting.



[32] Behind the holes 1-4 hide the butterfly valves, which can be set be means of a small screwdriver.

Checking the transfer process

The schematics to the right display the typical transfer process: from dispensing the label to transferring the label to the product.

1. Once a print or dispensing command is received, the label is transferred across the dispensing edge [33a] and separated from the release paper [33b]. The label is transferred closely past the edge of the vacuum plate [33c].

   The amount of bending in the label depends on the following factors:

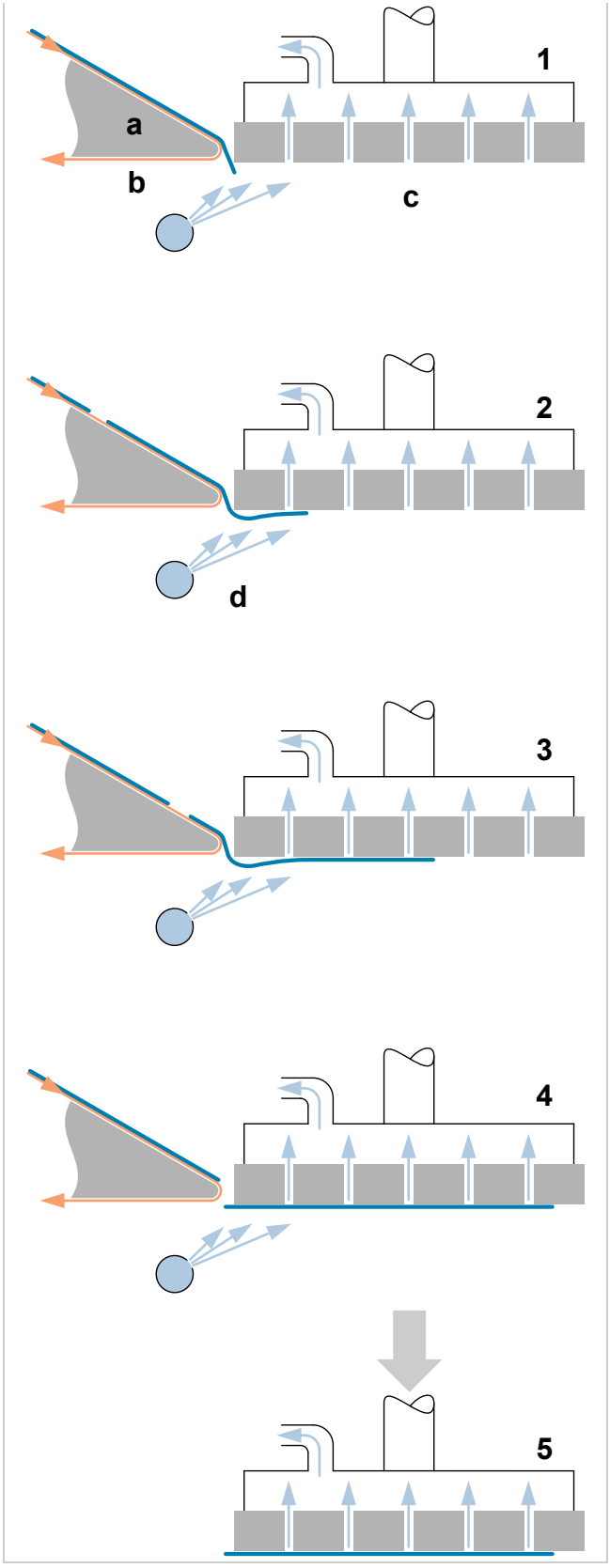
   – Feed speed
   – Adhesive force
   – Label thickness
   – Room temperature

   If the label is not deflected far enough to come past the vacuum plate, adjust the height setting of the dispensing edge. See chapter Setting the distance to the dispensing edge (ALX 92x) on page 31.
2. The support air [33d] deflects the label away from the vacuum plate.

   For more information, see chapter Setting the vacuum at the pressure plate (LTPV) on page 35.
3. The label is ‘caught’ by the vacuum plate and moved along by the feed force. The suction force of the vacuum plate must not exceed the feed force for the label. Here, it is important to consider the interaction between feed force, support air angle, support air force and suction force.

   For more information, see chapter Setting the support air on page 35.
4. Once the label has separated completely from the dispensing edge, it snaps onto the vacuum plate.

   The distance to the dispensing edge prevents the label from adhering during the downwards movement of the vacuum plate towards the final position.
5. The vacuum plate is pushed downwards to the final position and the label is transferred onto the product.



[33] Schematic of transfer process

Operation

CLEANING

Safety

WARNING!

Dangerous situations may arise during maintenance and cleaning work. Accidents may occur due to mechanical or electrical effects if the relevant safety instructions are not observed!

➔ Switch off the machine before cleaning or maintenance and completely disconnect it from the main power supply. Depending on the machine type, it may be necessary to pull out the mains power connecting line (refer to the user manual of the machine)!

➔ Never allow liquid to get into the machine!

➔ Do not spray the machine with spray bottles or sprays! Use a cloth wetted with cleaning agent!

➔ Repairs to the machine must only be made by trained service technicians!

Cleaning interval

➔ Clean the machine regularly.

The frequency depends on the following factors:

- Operating conditions
- Daily operating duration

Cleaning instructions

CAUTION!

Using sharp cleaning materials may cause damage.

➔ Do not use any cleaning agents or materials that could damage or destroy the paint finish, labelling, type plates, electrical component, etc.

➔ Do not use any scouring cleaning agents or any cleaning agents that could dissolve plastic.

➔ Do not use acid or alkaline solutions.

Cleaning agents:

- Compressed air, vacuum cleaner (if available)
- White spirit (ethanol) or isopropyl alcohol

Proceeding:

➔ Blow away or suck off any dust and abrasive particles with compressed air or a vacuum cleaner (if any of the two is available)

➔ Moisten a cloth with white spirit and wipe the machine with it.

FAULT CORRECTION

Status

In the event of faults occurring on the machine, evaluate the status reports of the dispenser/print-dispenser before doing anything.

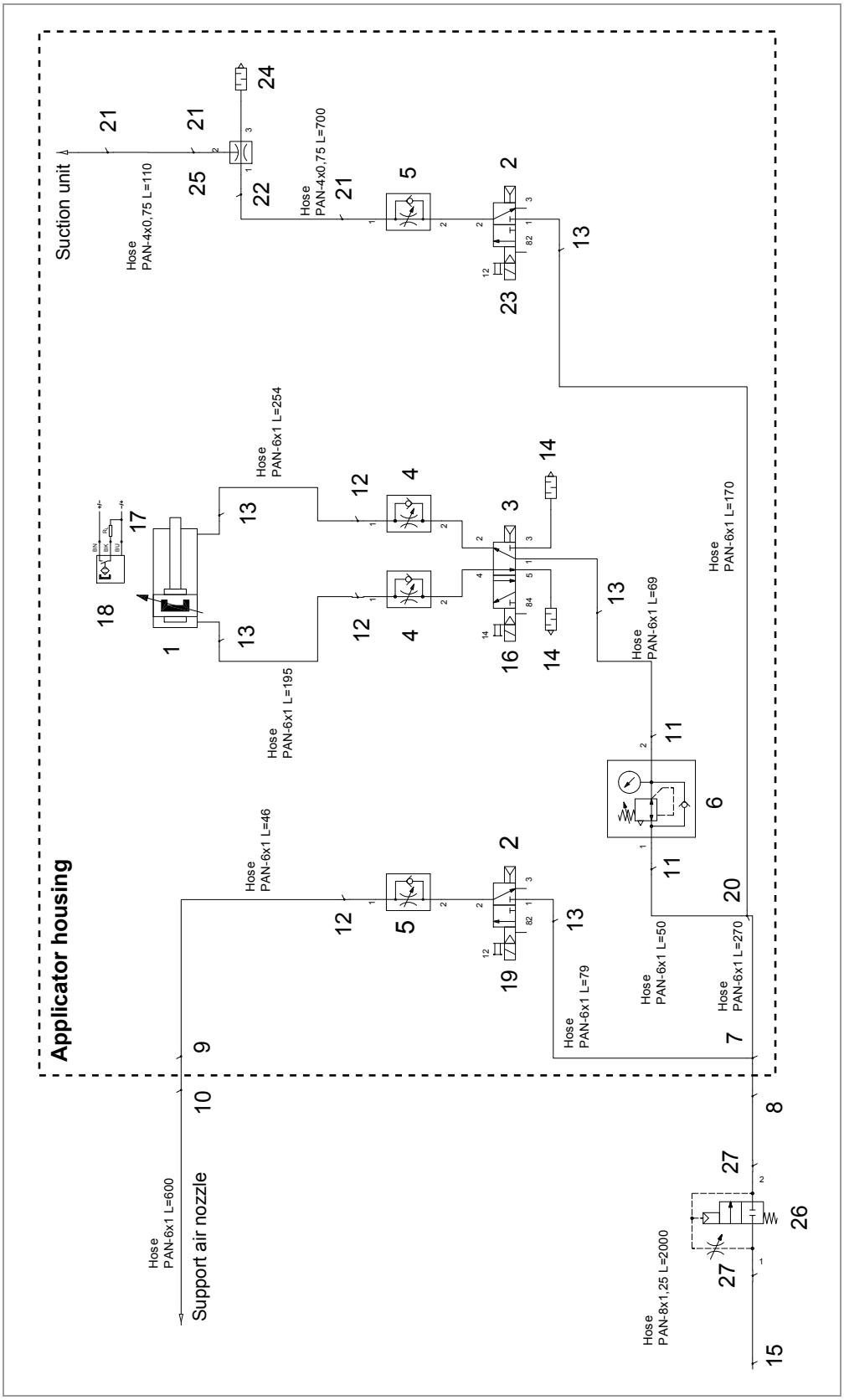
Read the user manual of the dispenser/print-dispenser, topic section „Status Reports“ or „Operational failures“.

Call service

If you are not authorised to carry out diagnosis and fault correction work, call your technician or the authorised service. The appropriate documentation and spare parts are available to the service personnel in order to carry out repair work of a sufficient quality.

Appendix

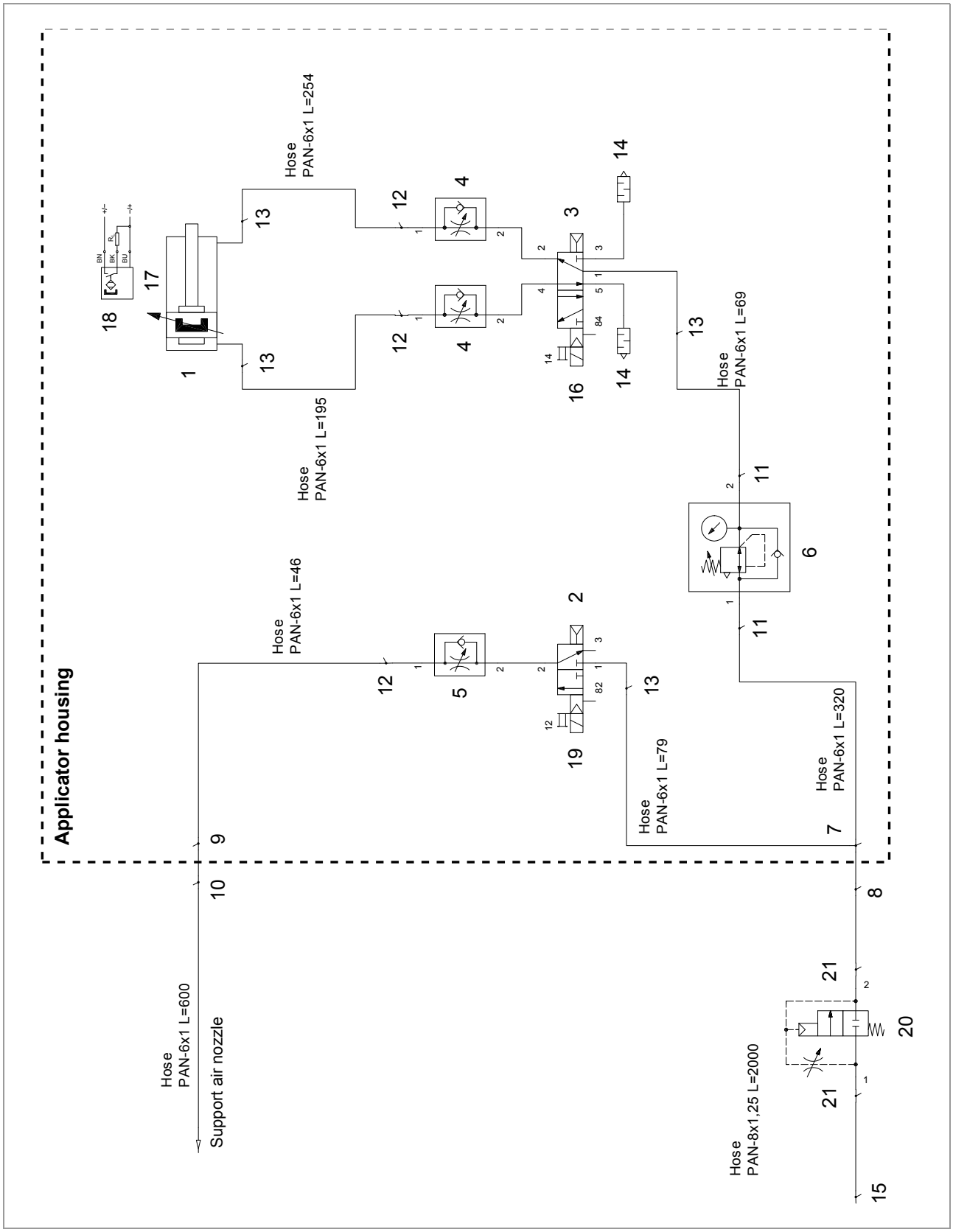
PNEUMATIC PLANS



[34] Pneumatic plan LTPV.

Pos. no.	Article no.	Amount	Designation
1	A4075	1	Norm cylinder
2	A5886	2	Solenoid valve
3	A5887	1	Solenoid valve
4	A4480	2	One-way restrictor
5	A4479	2	One-way restrictor
6	A4481	1	Pressure regulator
7	A4471	1	Push-in angled Y-fitting
8	A8272	1	Push-in/threaded fitting
9	A4473	1	Push-in/threaded L-fitting
10	A8271	1	Push-in/threaded fitting
11	A4475	2	Push-in/threaded L-fitting
12	A4476	3	Push-in/threaded fitting
13	A4468	5	Push-in/threaded L-fitting
14	A4466	2	Silencer
15	A4470	1	Quick coupling plug
16	A5895	1	Plug socket with cable
17	A4080	1	Mounting kit
18	A4081	1	Proximity switch
19	A5896	1	Plug socket with cable
20	A4486	1	Y-Steckverbindung
21	A3658	3	Push-in/threaded fitting
22	A3657	1	Push-in/threaded L-fitting
23	A5897	1	Plug socket with cable
24	A3667	1	Silencer
25	A3656	1	Vacuum generator
26	A100551	1	On-off valve
27	A100556	2	Push-in/threaded fitting

[Tab. 5] Parts list to pneumatic plan LTPV.



[35] Pneumatic plan LTP.

Pos. no.	Article no.	Amount	Designation
1	A4075	1	Norm cylinder
2	A5886	1	Solenoid valve
3	A5887	1	Solenoid valve
4	A4480	2	One-way restrictor
5	A4479	1	One-way restrictor
6	A4481	1	Pressure regulator
7	A4471	1	Push-in angled Y-fitting
8	A8272	1	Push-in/threaded fitting
9	A4473	1	Push-in/threaded L-fitting
10	A8271	1	Push-in/threaded fitting
11	A4475	2	Push-in/threaded L-fitting
12	A4476	3	Push-in/threaded fitting
13	A4468	4	Push-in/threaded L-fitting
14	A4466	2	Silencer
15	A4470	1	Quick coupling plug
16	A5895	1	Plug socket with cable
17	A4080	1	Mounting kit
18	A4081	1	Proximity switch
19	A5896	1	Plug socket with cable
20	A100551	1	On-off valve
21	A100556	2	Push-in/threaded fitting

[Tab. 6] Parts list to pneumatic plan LTP.

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