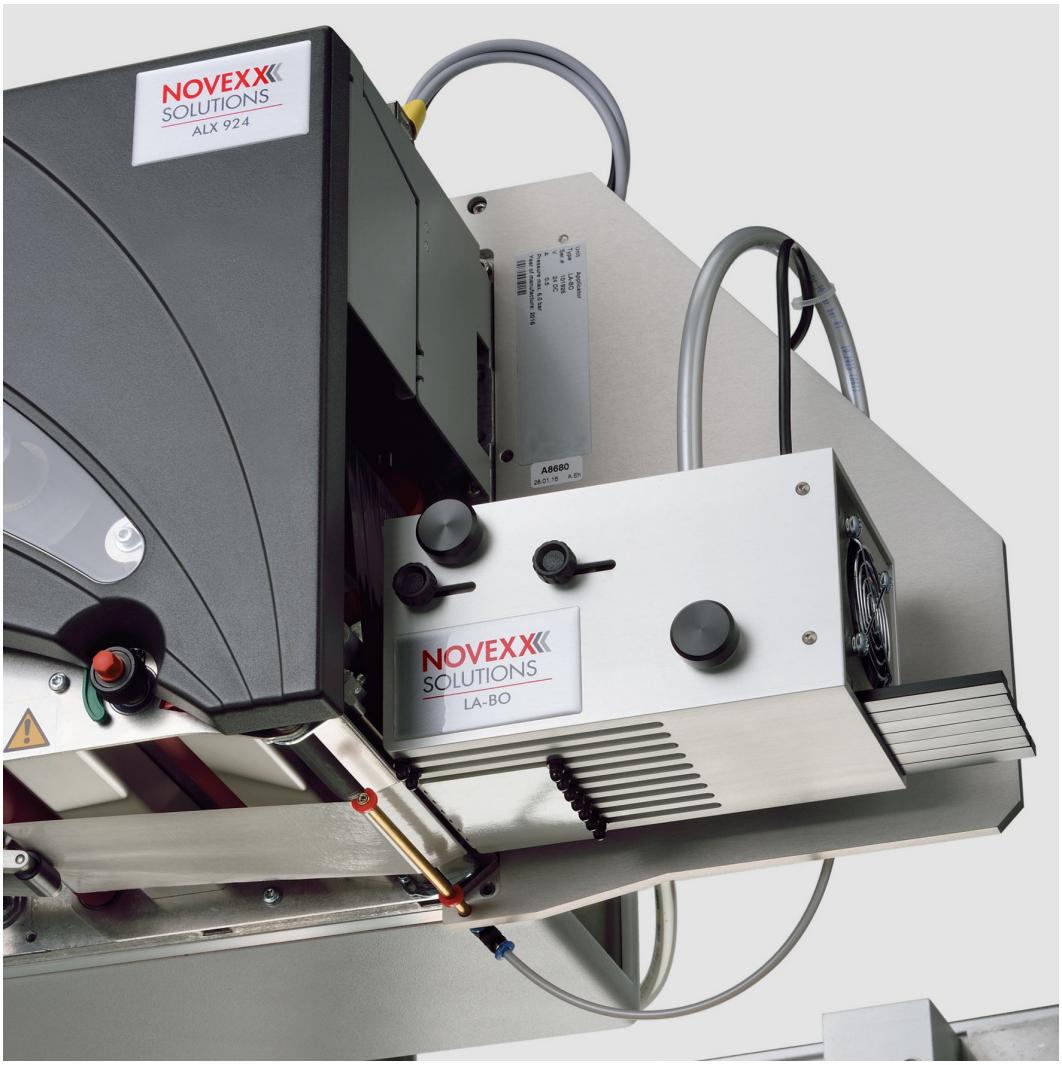
NOVEXX SOLUTIONS

OPERATING MANUAL

Applicator LA-BO



Edition 04b - 09/2017

Contents

Please Note

GENERAL INFORMATION

Validity of this manual and required compliance

Contents

The complete technical documentation for the LA-BO consists of the following parts:

- Operating manual (for system integrators and operating personnel)
- Service manual (for service personnel)
- Spare parts catalog (for service personnel)

The present *operating manual* describes the installation and operation of the LA-BO. For safe and proper operation of the print & apply system or of the labeler with attached LA-BO, it is indispensable to consult the operating manual for the relevant machine too.

For technical questions not covered in this operating manual,

➔ Follow the instructions of the LA-BO service manual or of the service manual of the print & apply system or of the labeler.

or

➔ Contact a service technician from one of our sales partners.

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

Technical status

10/2007

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.

Copyright

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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!

‖ Note about how an action has to be performed. ‖

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.
➔ Always follow the instructions.

CAUTION!

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

Figures

Texts are accompanied by figures where necessary.

Generally, the LA-BO unit shown is a right-handed version. The left-handed version is only shown where it is necessary to differentiate between the two.

FOR YOUR SAFETY

Intended use

The LA-BO applicator is a device for automatic attachement of self-adhesive labels, which are supplied to the applicator by one of the following labelers or print & apply systems.

Print & apply system:

- ALX 92x
- ALX 73x

Labelers:

- ALS 20x
- ALS 256
- ALS 306

The LA-BO is mounted to the respective machine by means of its base plate. In contrast to direct dispensing from the dispensing edge of the machine onto the product, the LA-BO can bridge distances of up to 10 cm between dispensing edge and product. The applicator is controlled by the optional applicator interface (AI) board (mandatory for ALX and optional for ALS) or by the internal applicator interface (ALS only). The electrical connection to the LA-BO is done via a plug connector. The drive is provided by compressed air.

> The optional Applicator Interface (AI) board is not included with the LA-BO and has to be ordered separately with the machine.

The application process is triggered by means of a product sensor, which is connected to the machine.

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.

Making note of information

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.

Operating safety of the machine

Intended use

The machine must only be used in accordance with the specifications described in chapter “Technical data” on page 11 and the intended purpose described in chapter “Application Notes” on page 7.

WARNING!

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

➔ Only use the unit in accordance with the instructions specified in this manual.
➔ Only configure the unit in accordance with this manual and with the required care.
➔ Only use original accessories.
➔ Do not make any modifications or alterations to the unit.
➔ Repairs to the device may only be performed by authorised specialists who are aware of the risks involved.

Protection against injuries by electrical current

Applicators of type LA-BO operate using low voltage 24 V DC supplied by NOVEXX Solutions print & apply systems or labelers.

WARNING!

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

➔ Never connect the LA-BO unit directly to mains voltage!
➔ Only operate the unit once the housing has been reassembled properly.
➔ Before cleaning, switch off the NOVEXX Solutions print & apply system or labeller and remove the power cable from the socket.
➔ Keep the unit dry.
➔ If liquids have penetrated the LA-BO unit, switch the NOVEXX Solutions print & apply system or labeler off and disconnect or unplug it’s power cable immediately. Inform a service technician.

Protection against injuries by mechanical action

WARNING!

Risk of injury due to moving parts!
Risk of crushing hands between the vacuum grid of the LA-BO and the conveyed products!

➔ Never reach between the product and the LA-BO edge while the unit is in operation or ready for operation.

Protection against injuries by chemicals

WARNING!

Operating materials such as cleaning agents or the solvents in glues can be damaging to health.

➔ Always follow the instructions, use and safety regulations specified by the manufacturer!

Product description

APPLICATION NOTES

Installation position

Permissible installation positions for the LA-BO are:

- *Vertical*: if application takes place from top to bottom (also referred to as “top labelling” - the product is located below the applicator) or from bottom to top (also referred to as “bottom labelling” - the product is located above the applicator).
- *Horizontal*: the product is located next to the applicator (also referred to as “side labelling”).

Device designation

LA-BO stands for "Label Applicator Blow-On". The abbreviation ‘BO’ (blow on) distinguishes this applicator from other application techniques such as ‘touch on’ or ‘swing on’.

Mode of Operation

The fan in the LA-BO is continuously powered, creating a strong inwards airflow through the aluminium vacuum grid at the bottom side. While a label is dispensed, the small blow pipe is activated, creating a small focused air stream to force the label against the aluminium grid. When the label is fully dispensed, it is held onto the aluminium grid by the inwards airflow and is then stand-by to blow off the label. When the application cycle is triggered by the product sensor, a high volume air pressure is applied through the air nozzles built-in above the aluminium grid. The nozzles which are not covered by the black sliding bars will now blow off the label towards the product at a high velocity. After that, the next label can be dispensed on the grid.

SYSTEM REQUIREMENTS

Machine type

Machine	Article no. LA-BO	Controller	Notes
ALX 924/925/926 LH	A8679	AI	Machine has to be equiped with standard dispensing edge and AI (see table below).
ALX 924/925/926 RH	A8680		
ALS 306 LH	A9776	AI or internal	Machine has to be equiped with L-shape fixed dispensing edge (ALX 73x: holder with 160 mm width mandatory). The AI is an Option; nevertheless, the connector at the LA-BO cable matches the AI. As a standard, the internal applicator interface can be used, but limits the use of PLC signals. For use with the standard interface, the adapter cable A9103 (option) is mandatory.
ALS 306 RH	A9777		
ALX 734/735/736 LH	A9776		
ALX 734/735/736 RH	A9777		
ALS 204/206/256 LH	A8677		
ALS 204/206/256 RH	A8678		

Tab. 1: Machines at which the LA-BO can be operated and the appropriate article numbers for ordering.

By ordering the specified part number, you will receive a LA-BO applicator with installation material and connection cables, suitable for installation on the device type listed at the beginning of the line. The Applicator Interface (AI) board is *not* part of the delivery and has to be ordered separately:

Machine	AI factory installed	AI retrofit kit	Adapter cable
ALX 92x	A5032	A5207	not required
ALS 20x	A106215	A9516	A9103
ALS 306	A9584		
ALX 73x			

Tab. 2: Article numbers AI and adapter cable

Firmware

Machine	Firmware Machine	Firmware AI
ALX 92x	3.30	1.11
ALS 20x/256	1.17	

Tab. 3: Required minimum firmware versions for machine and AI.

Compressed air

The LA-BO should be operated with an air pressure of 5-6 bar.

> CAUTION!
>
> The applied compressed air must match the following conditions to assure proper operation of the applicator:
> ➔ The maximum air pressure must not exceed 6 bar! A higher pressure can damage the device.
> ➔ The air pressure must be kept constant to ensure the correct operation of the applicator.

Start signal

ALX 92x:

The start signal must be connected to the product sensor input of the AI interface.

For details see service manual ALX 92x, topic section "Applicator Interface“, chapter "Pin assignments“ > "Product sensor connection“.

ALS 20x/256/306 or ALX 73x:

The startsignal must be connected to the M12-connector “Start”.

(ALS 20x/256, ALS 306) For details see service manual ALS 20x/256 or ALS 306, chapter "Electronics Description" > "Applicator Interface“ > "Pin assignment for product sensor connection".

(ALX 73x) For details see service manual ALX 73x, topic section "Dispenser Electronics", chapter "Applicator Interface“ > "Pin assignment for product sensor connection".

COMPONENT OVERVIEW

Front side

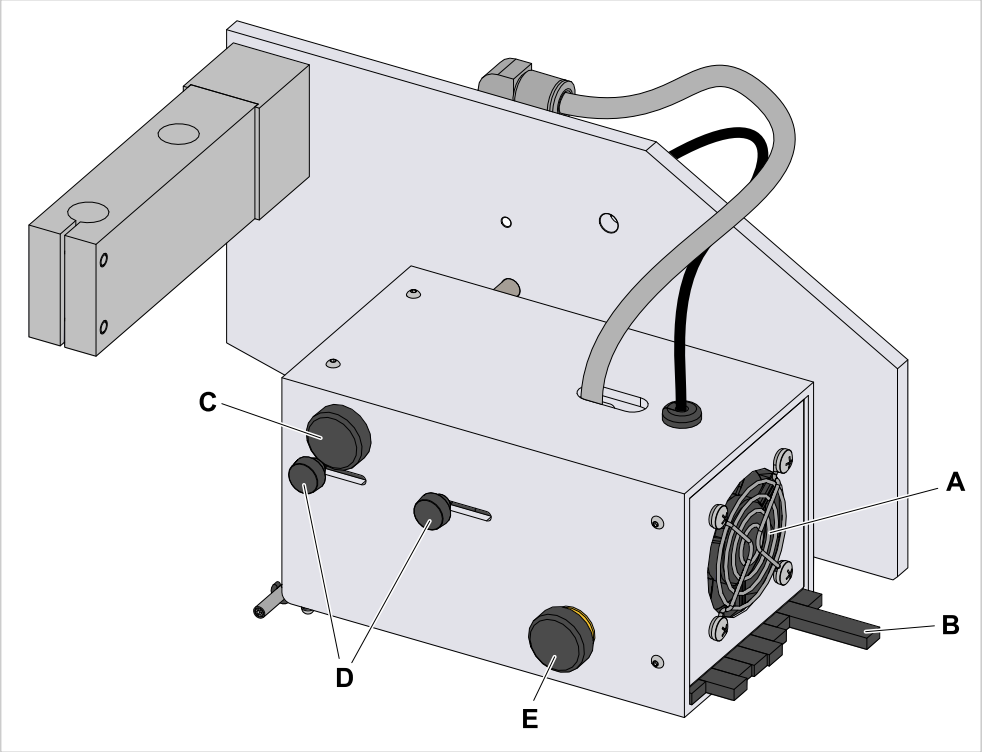


Fig. 1: Control elements on the front side of the LA-BO (here: version for ALS 20x/256/306 or ALX 73x).

Pos.	Name
A	Fan
B	Sliding bars
C	Knob for unlocking the swivelling mechanism
D	Knobs for adjusting the air nozzles in feed direction
E	Knob for adjusting the air nozzles across feed direction

Rear side

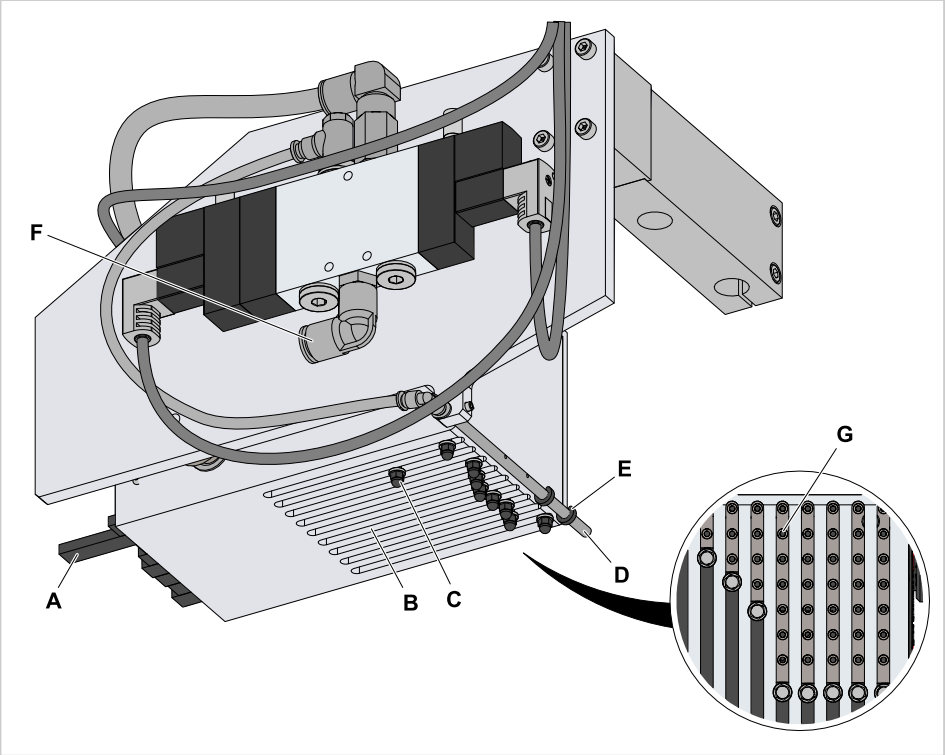


Fig. 2: Control elements on the rear side of the LA-BO (here: version for ALS 20x/256/306 or ALX 73x).

Pos.	Name
A	Sliding bars
B	Vacuum grid
C	Knob at the sliding bar
D	Blow pipe
E	Ring to close off holes in the blow pipe
F	Connection for compressed air supply hose
G	Air nozzle

TECHNICAL DATA

Material type	Self-adhesive labels of paper, PE or PP
Label size	Min. 30 x 30 mm Max. 100 x 100 mm
Application distance	Min. 20 mm Max. 100 mm[1]
Application capacity	Up to 160 labels/min[2]
Product speed	From 0 up to 120 m/min[3]
Application angle	90° +/- 10°
Application accuracy	Typically +/- 1 mm
Control	Applicator Interface
Compressed air	5-6 bar
Air consumption	Approx. 1 liter per apply cycle
Dimensions	*ALX 92x*: 300 x 345 x 153 mm *ALS 20x/256/306, ALX 73x*: 357 x 188 x 153 mm
Weight	3.5 kg
Environmental conditions	Enclosed rooms Working temperature: 5 to 40°C Storage temperature: 0 to 60°C Relative humidity: 30 to 80%, non-condensing
Protection class	IP 21
Power consumption	15 VA
Supply voltage	24 V DC (from ALX or ALS)
Noise level	82 dB(A) during blow cycle

1) Depending on label size.
2) Depending on label size and time necessary for trailing edge of label to be released from backing paper.
3) Depending on labelsize, blow distance, productsurface and accuracy.

Startup

MOUNTING & SETTING ON ALX 92X

Mounting

This chapter describes how to mount the LA-BO to an ALX 92x machine. The pictures show an ALX 92x (RH). For article numbers refer to chapter “Machine type” on page 7.

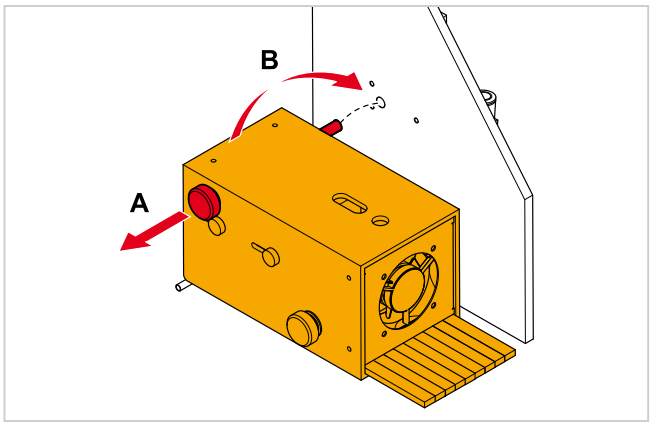
Fig. 3: LA-BO for ALX 92x (delivery status).

Tools:

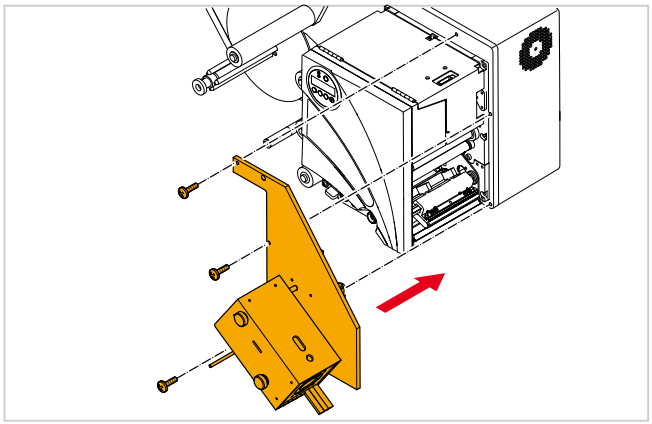
- Allen key 3 mm
- Small size screwdriver

> At ALX 92x supplied before May 2007, 3 mounting holes have to be drilled in the ALX 92x ground-plate. Please refer to service manual chapter „Repair & Maintenance“ > „Pre-Installation of the LA-BO on the ALX 92x“ for detailed instructions.

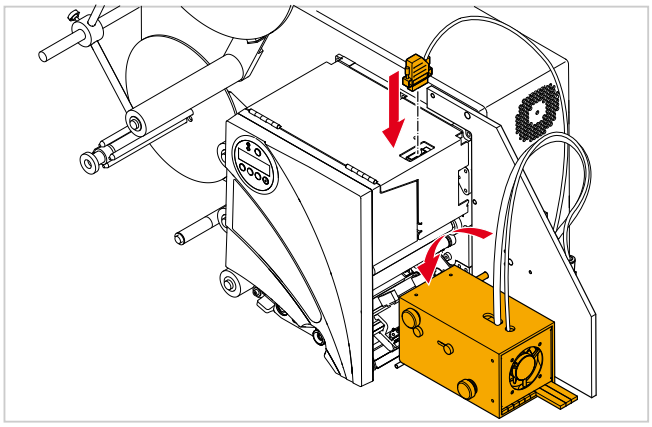
1. Pull out the black top-left knob (A) and turn the LA-BO housing in the upper position (B).



2. Screw the base plate of the applicator onto the base plate of the ALX 92x (3x M5x20).



3. Plug the cable of the LA-BO into the D-sub connector of the ALX 92x on the top side of the printer unit.



4. Connect the applicator to the compressed air (see chapter “Connecting compressed air” on page 20).

Adjustment/Setting

Adjusting the dispensing edge to the vacuum grid

After fitting the applicator, the position of the dispensing edge in relation to the vacuum grid of the applicator must be verified and adjusted if necessary. When viewed from the side, the bottom surface of the vacuum grid must be slightly below and in front of the dispensing edge (figure below).

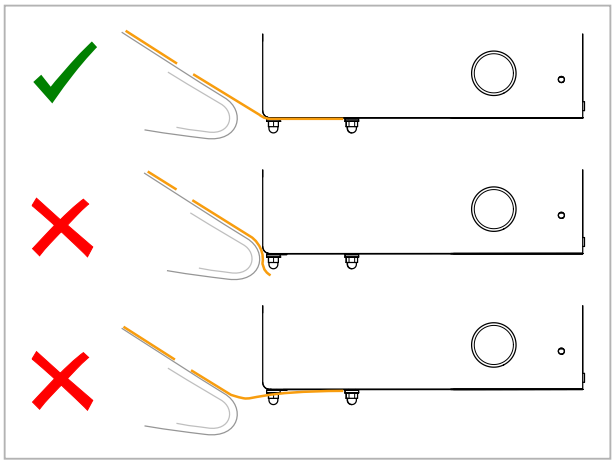


Fig. 4: Position of dispensing edge to vacuum grid.

As a guideline, the center of the dispensing edge should be positioned approximately 1 mm *above* the vacuum grid surface.

To adjust:

➔ Loosen the fixing screws of the angular adjustment of the dispensing edge, rotate the dispensing edge in the desired position and retighten the screws.

Parameter settings on the ALX 92x

Menu	Parameter	Setting
DISPENSER PARA	Dispenseposition	0 mm (label must be entirely dispensed)
	Head disp dist.	24.5 mm
	Application mode	„Safe mode“
APPLICATOR PARA	Applicator type	LA-BO
	Application mode	„After start sig.“ (preferred for maximum output capacity)
	Blow on time	60 ms

MOUNTING & SETTING ON ALS 20X/256/306 OR ALX 73X

Mounting

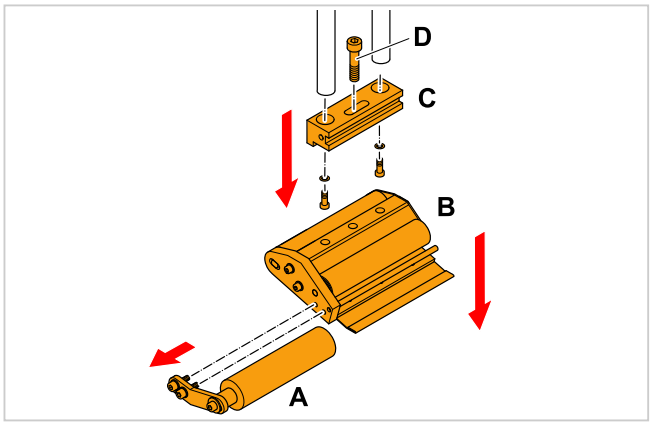
This chapter describes how to mount the LA-BO to an ALS 20x/256/306 or ALX 73x machine. The pictures show an ALS 20x (RH), but the procedure is the same for the other listed machine types. For article numbers refer to chapter “Machine type” on page 7.

Fig. 5: LA-BO for ALS 20x/256/306 and ALX 73x (delivery status)

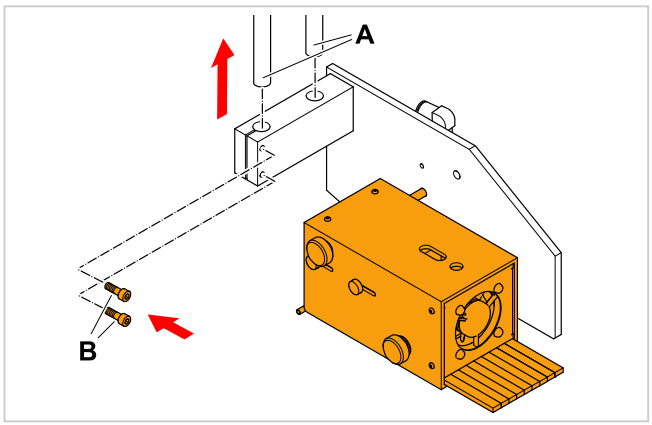
Tools:

- Allen key 4 mm
- Small size screwdriver

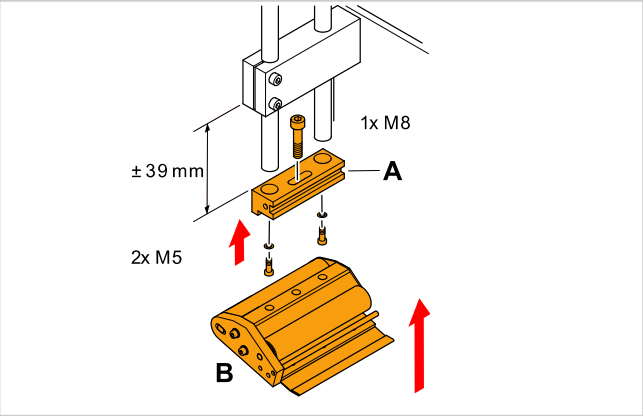
1. Remove the pressure roller (A) from the dispensing edge and then remove the dispensing edge (B) from the dispensing edge holder by loosening the M8 screw (D). Remove the black bracket (C) from the dispenser rods by releasing the 2 M5 screws at the bottom side.



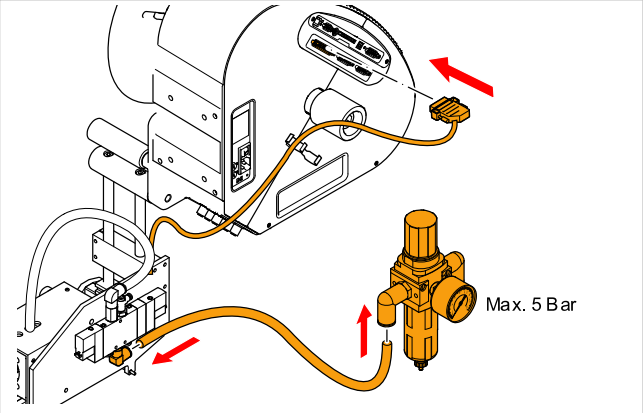
2. Slide the aluminium bracket of the LA-BO over the 2 dispenser arm rods (A) and tighten the screws (B).



3. Remount the black bracket (A) on the dispenser arm rods and adjust the height of the LA-BO so that there's a distance of approximately 39 mm to the black bracket for the dispensing edge. Remount the dispensing edge (B) to the black bracket at the dispensing edge holder.



4. Plug the cable of the LA-BO into the (44 pin) D-sub connector in the AI-board at the back side of the machine. Alternatively, plug the cable into the D-Sub 15 connector when using internal applicator interface (adapter connector A9103 necessary).



5. Install the included service unit somewhere close by the LA-BO, e.g. on the support stand of the machine. For details refer to chapter "Installing the service unit" on page 18.
6. Connect the LA-BO to the service unit. Connect the compressed air to the service unit. For details refert to chapter "Connecting compressed air" on page 20.

Adjustment/Setting

Adjusting the dispensing edge to the vacuum grid

After fitting the applicator, the position of the vacuum grid of the applicator in relation to the dispensing edge must be verified and adjusted if necessary. When viewed from the side, the bottom surface of the vacuum grid must be slightly below and in front of the dispensing edge (figure below).

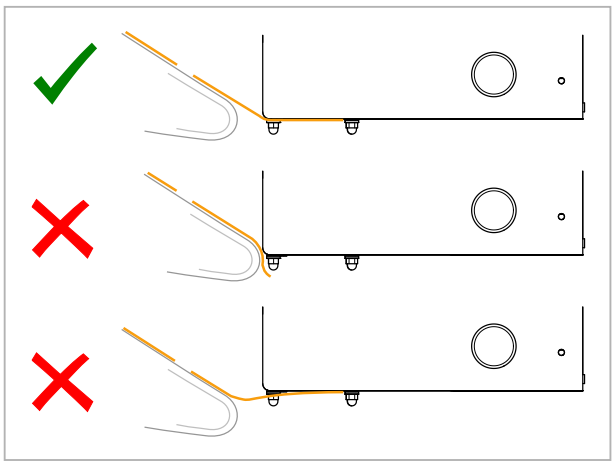


Fig. 6: Position of dispensing edge to vacuum grid.

As a guideline, the vacuum grid surface should be positioned approximately 1 mm *below* the center of the dispensing edge.

To adjust: Loosen the fixing screws of the applicator's bracket, adjust the height of the LA-BO to the dispensing edge and retighten the screws.

Standard signal interface - parameter settings

The parameter settings required for operating the LA-BO applicator controlled by the *standard signal interface*:

Menu	Parameter	Setting
LABEL SETUP	Lab. stop offset	19.0 mm (also depending on distance of label sensor to disp. edge, label must be entirely dispensed)
SIGNAL INTERFACE	Interface mode	„Applic. signals“
SIGNAL INTERFACE >APPLIC. SIGNALS	Apply mode	„After start sig.“ (preferred setting for maximum output capacity)
	Blow on time	60 ms

AI - parameter settings

The parameter settings required for operating the LA-BO applicator controlled by the *applicator interface* (AI).

> The SIGNAL INTERFACE > >AI BOARD SIGNAL menu appears, if an AI is installed *and* if SIGNAL INTERFACE > Interface mode is set to „Applic. signals“.

Menu	Parameter	Setting
LABEL SETUP	Lab. stop offset	19.0 mm (also depending on distance of label sensor to disp. edge, label must be entirely dispensed)

Menu	Parameter	Setting
SIGNAL INTERFACE	Interface mode	„Applic. signals“
SIGNAL INTERFACE >AI BOARD SIGNAL	Apply mode	„After start sig.“ (preferred setting for maximum output capacity)
	Blow on time	60 ms

INSTALLING THE SERVICE UNIT

The service unit comes with the applicator. It consists of the following parts:

- Manual on-off valve
- Filter regulator
- Condensate drain

Tools:

- Screwdriver size 2
- 5 mm hex screwdriver

Fastening	Screws	Hole separation
With bracket	M6 x 16	28 mm
Without bracket	M4 x 45	35 mm

Assembly:

➔ Fasten the service unit directly onto the enclosure or using a mounting bracket (A).

‖ The condensate drain (B) must point downwards. ‖

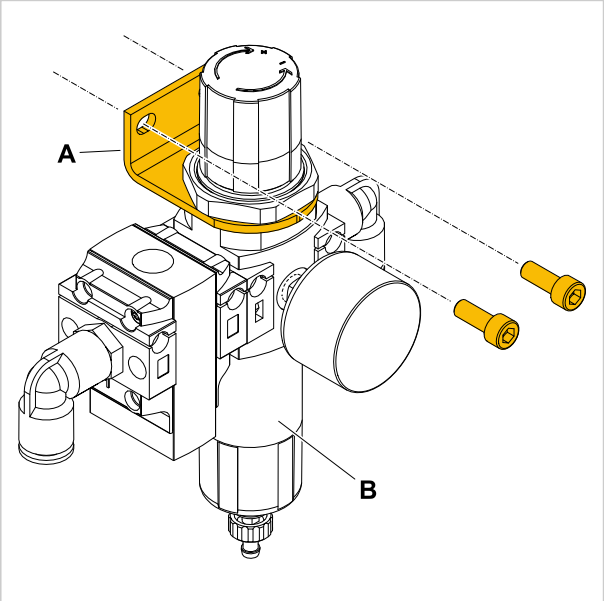


Fig. 7: Mounting the service unit with mounting bracket (A).

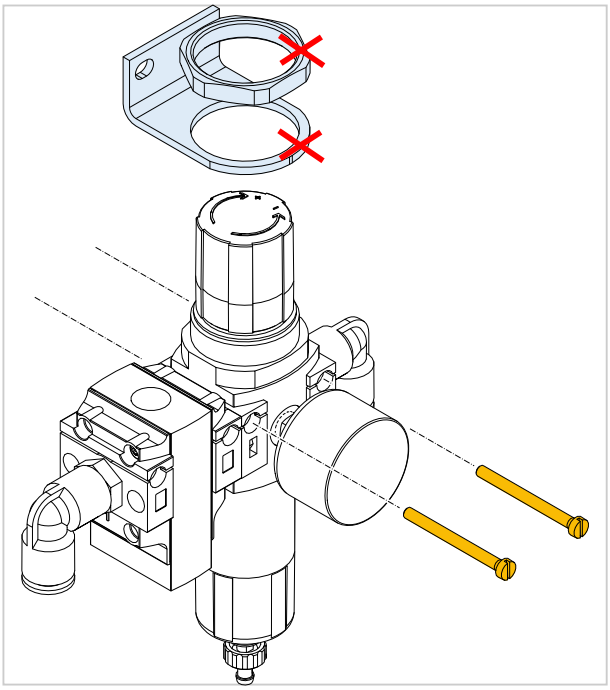


Fig. 8: Mounting the service unit without mounting bracket (bracket and hex nut can be layed aside).

➔ Fasten the pressure hoses so that the air flows through the pressure regulator in the direction from mark „1“ to mark „2“.

‖ The connector marked „2“ is the compressed air outlet. This must be connected to the applicator. ‖

The compressed air outlet can be optionally set to the right or left on the pressure regulator. This requires Installing the compressed air outlet to the opposite side:

1. Remove the bolt plug (A).
2. Remove the manometer (B).
3. Install the bolt plug and manometer to their opposite sides.

‖ Mind the instruction sheet of the manufacturer, which comes with the service unit. ‖

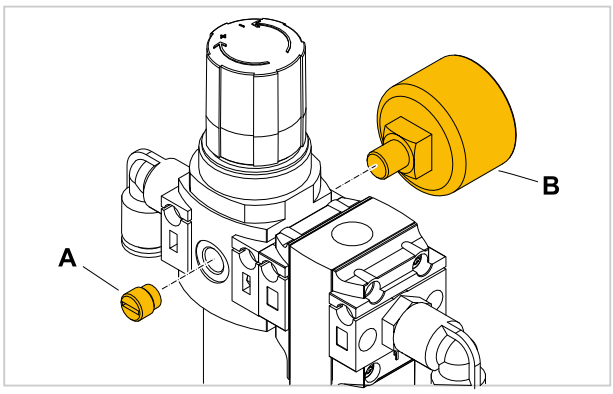


Fig. 9: Rear view of the service unit. Arrows on the housing show the compressed air flow direction.

CONNECTING COMPRESSED AIR

Prerequisites:

- Hose diameter: 10 mm
- Maximum admissible compressed air pressure at the service unit *entrance*: 10 bar
- Maximum admissible compressed air pressure at the service unit *exit*: 6 bar

➔ Connect the compressed air hose as illustrated

‖ Mind the instruction sheet of the manufacturer that comes with the service unit. ‖

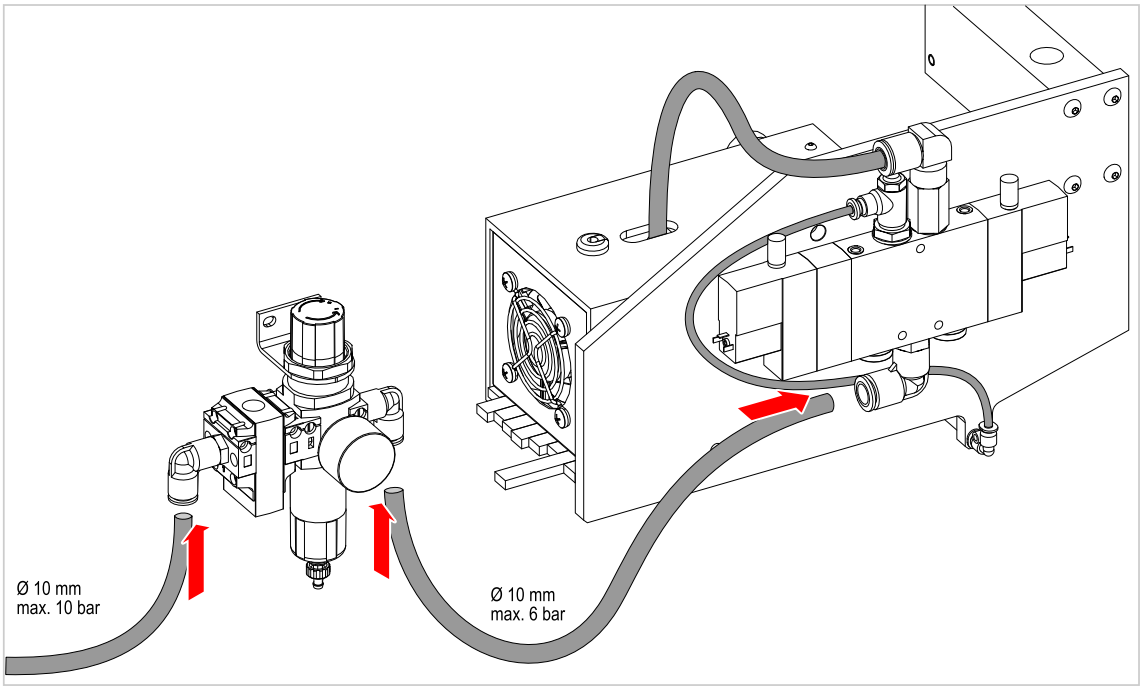


Fig. 10: Connecting the compressed air hose (here: LA-BO for ALS 20x/256)

GENERAL ADJUSTMENTS

Adjusting the application height

In general, to obtain a good apply accuracy of the label on the product, it is recommended to adjust the LA-BO as close as possible to the product surface.

CAUTION!

Hazard of collision between the conveyed products and the LA-BO.

Possible consequences: Damages at LA-BO and/or products respectively impairment of production output.

➔ When adjusting the label height, provide a safe distance between LA-BO (especially the support air nozle) and products on the conveyor.
➔ Consider variations in product height, when adjusting the height of the LA-BO.

The labelling distance of the LA-BO to the product surface may vary between 20 mm and maximum 100 mm.

➔ Adjustment of the LA-BO application height is done by adjusting the mounting height of the machine.

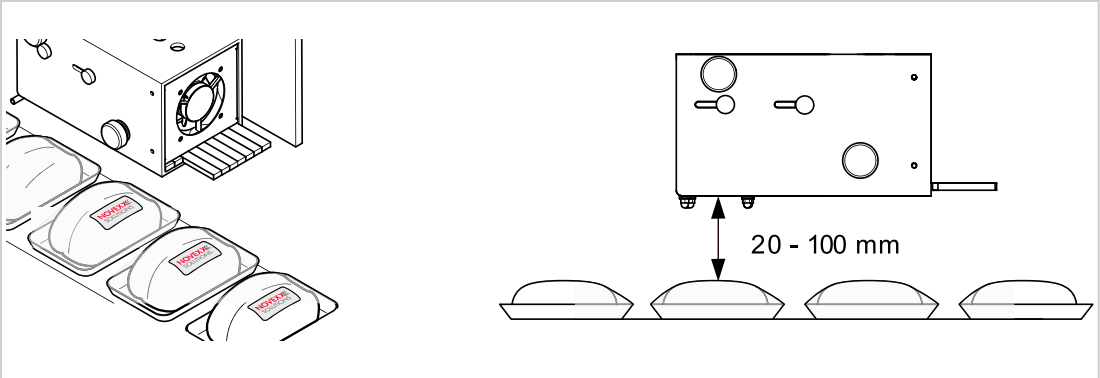


Fig. 11: Labelling distance between LA-BO and product.

Adjustments to the label material

The following adjustments have to be made every time the label format is changed on the machine.

Adjusting the sliding bars in the vacuum grid
Because the LA-BO needs to create a strong air flow, evenly spread over the label surface, it is important to adjust the sliding bars of the vacuum grid. Once this setting is done, the sliding bars will close off the air nozzles which are positioned outside the label area.

1. Adjust the bars of the vacuum grid enough outside so a label can be dispensed freely on the vacuum grid without touching any of the knobs (A) on the bars.

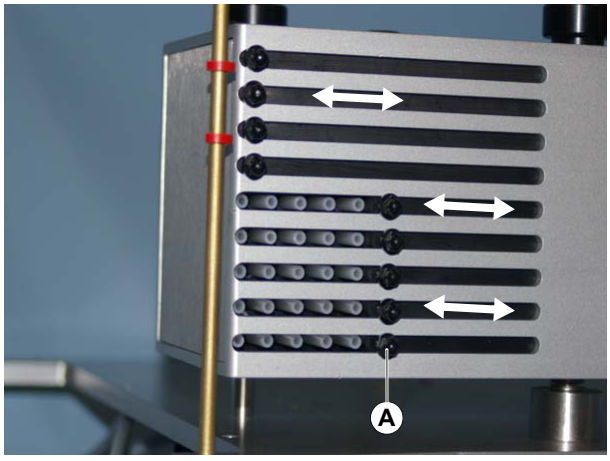


Fig. 12: The sliding bars in the vacuum grid must be adjusted to close off air nozzles outside the label surface.

2. Dispense a single label on the vacuum grid of the applicator. The label should not touch any of the knobs on the adjusting bars.

> The label is not dispensed straight on the grid or still sticks with the trailing edge on the dispenser?
>
> ➔ Check the height adjustment of the dispenser in relation to the vacuum grid.

3. Carefully adjust the bars to the label size by moving the knobs just against the label edge, without touching the edge of the label. Bars outside the width of the label should be fully moved inwards the vacuum grid so all the air nozzles above this bar are closed.

4. Proceed some dispensing tests and check if the knobs on the bars are not touching or holding the edge of the dispensed label.

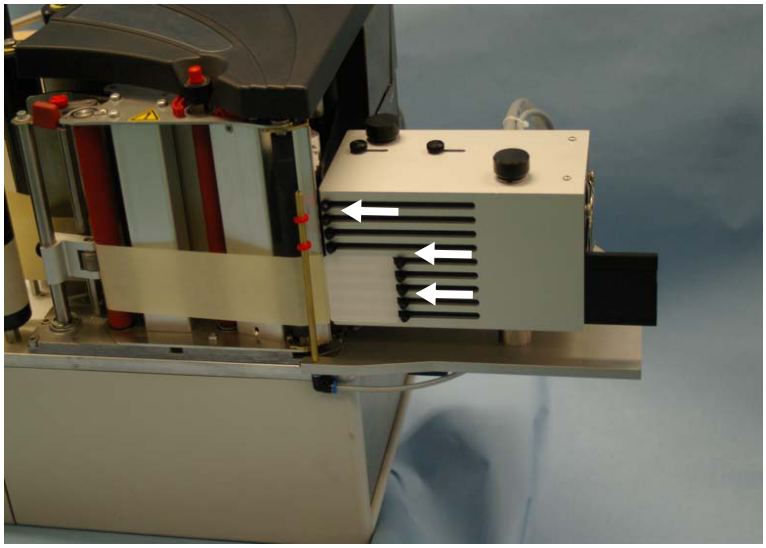


Fig. 13: Adjusting the bars in the vacuum grid so air nozzles outside the label surface are closed off.

> In most applications with a blow-on applicator, it will be difficult to visually verify the position of the sliding bars from the bottom side of the vacuum grid. Therefore, the bars can also be adjusted by matching the section of the bars outside the vacuum grid to the label surface, as shown on the figure below:

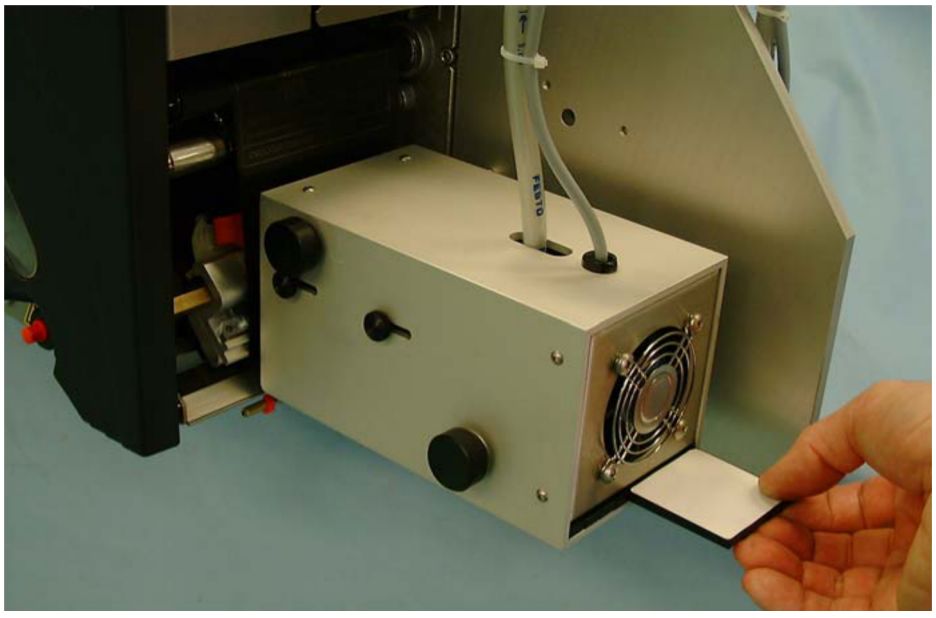


Fig. 14: Adjusting the bars in the vacuum grid by matching the outside section of the sliding bars with the label surface.

Adjusting the air nozzles in the vacuum grid

To achieve optimal labelling apply accuracy it is important to adjust the blow-off air flow in the center of the label under the vacuum grid. Therefore the air nozzles of the LA-BO can be fine adjusted in the X (width) and Y (length) direction in reference to the label area.

To adjust the air nozzles in X-direction (width of label)

➔ Turn the black lower-right knob (A) clockwise or counter clockwise until the sliding bars / nozzles are centered over the width of the label.

> This setting becomes more critical for smaller label sizes. If the non-closed nozzles are not centered over the width of the label, the label will move sideways during the blow-on action.

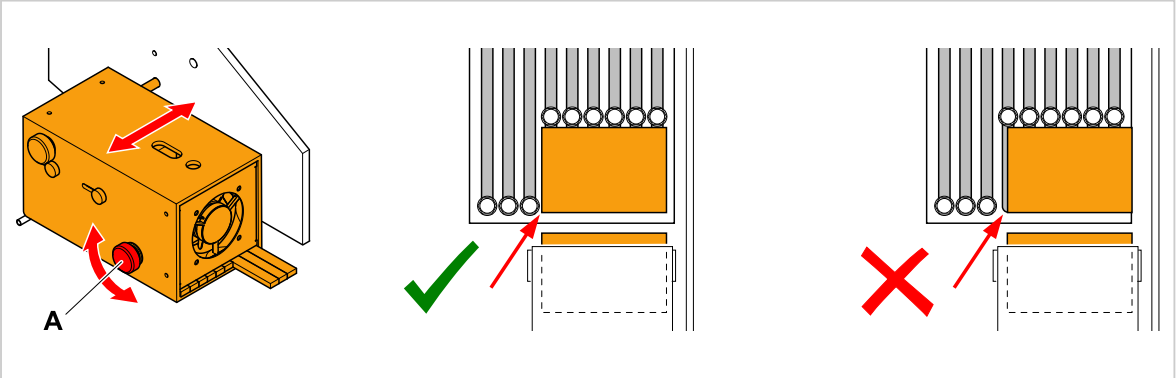


Fig. 15: Adjusting the air nozzles across feeding direction.

To adjust the air nozzles in Y-direction (length of label)

1. Loosen the 2 small black knobs (A) and slide them in a direction as follows:
   - Label length < 75 mm: Slide knobs towards the dispensing edge
   - Label length > 75 mm: Slide knobs away from the dispensing edge
2. Retighten the 2 small black knobs.
3. Small label formats (less than 40 mm width): Check if the open nozzles are centered over the width of the label.

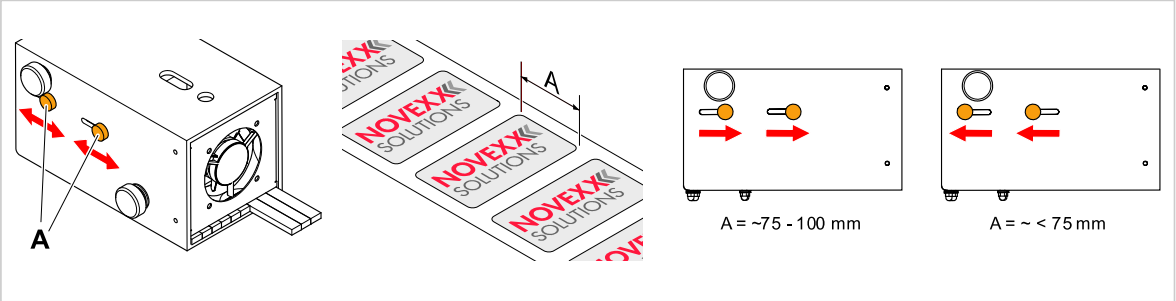


Fig. 16: Adjusting the air nozzles in feeding direction.

Adjusting the air stream support

The small brass blow pipe creates an air stream during the dispensing of the label to support the label towards the vacuum grid of the LA-BO. It is necessary to adjust the position of the blow pipe to obtain an aligned and straight label transport to the vacuum grid.

Tool: Allen key 2.5 mm

1. Loosen the threaded pin (A) at the blowpipe.
2. Adjust the blowpipe so the maximum number of air holes are centered to the label width.

> If there are air holes outside the width of the label, they should be closed off by the red rings (B).
>
> The air holes in the blow pipe should be directed to the vacuum grid.

3. Retighten the threaded pin to fix the blowpipe.

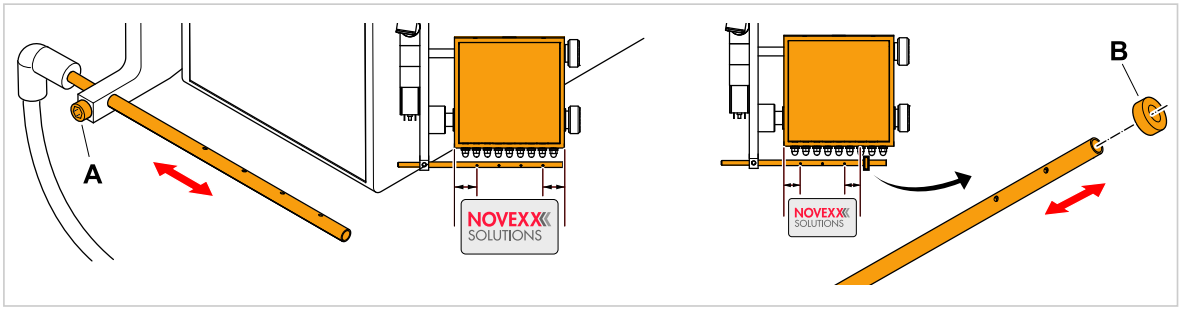


Fig. 17: Adjusting the air stream support.

Setting the dispensing position parameter

When using the LA-BO applicator the dispensing stop position of the machine should be set so that the label is just released when dispensed, i.e. so that it no longer adheres to the carrier material.

> If the label is not completely dispensed but is still partially attached to the carrier material, the label will be blown off side ways, or upside down or will not be blown off by the LA-BO.
>
> Advancing the carrier material too far can cause the label be pulled back under the dispensing edge in case of strong adhesive or the following label can come in contact with the dispensed label.

Operation

ACTIVATING/DEACTIVATING THE APPLICATOR

In most cases, the applicator will be supplied with compressed air by the plant in which it is integrated. To switch the compessed air supply on/off, use the appropriate valve at the plant.

Alternatively, the on-off valve at the service unit can be used to switch the compressed air on/off.

On:

➔ Push the slide (A) at the on-off valve into the *lower* position („Open“).

Off:

➔ Push the slide at the on-off valve into the *upper* position.

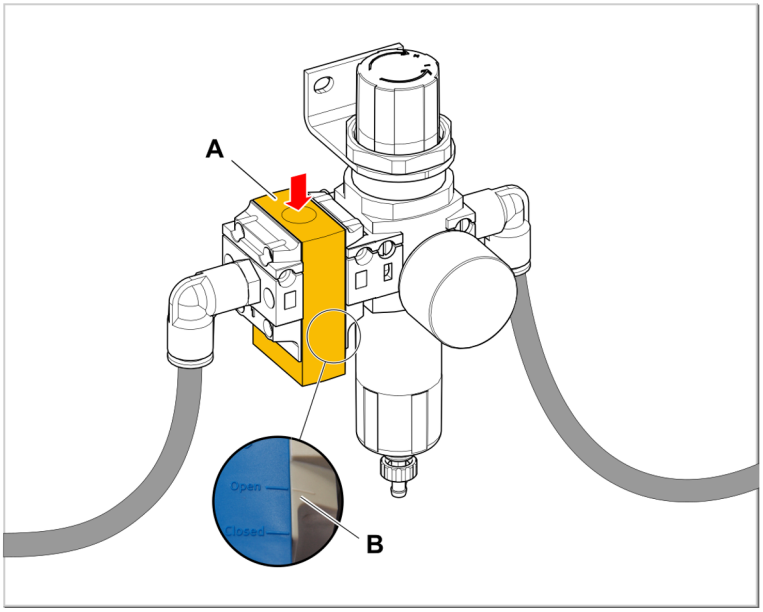


Fig. 18: Slide (A) at the on-off valve in „open“ position (B).

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 print & apply system respectively of the labeler before doing anything.

Read the user manual of the print & apply system or of the labeler, 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 DIAGRAM

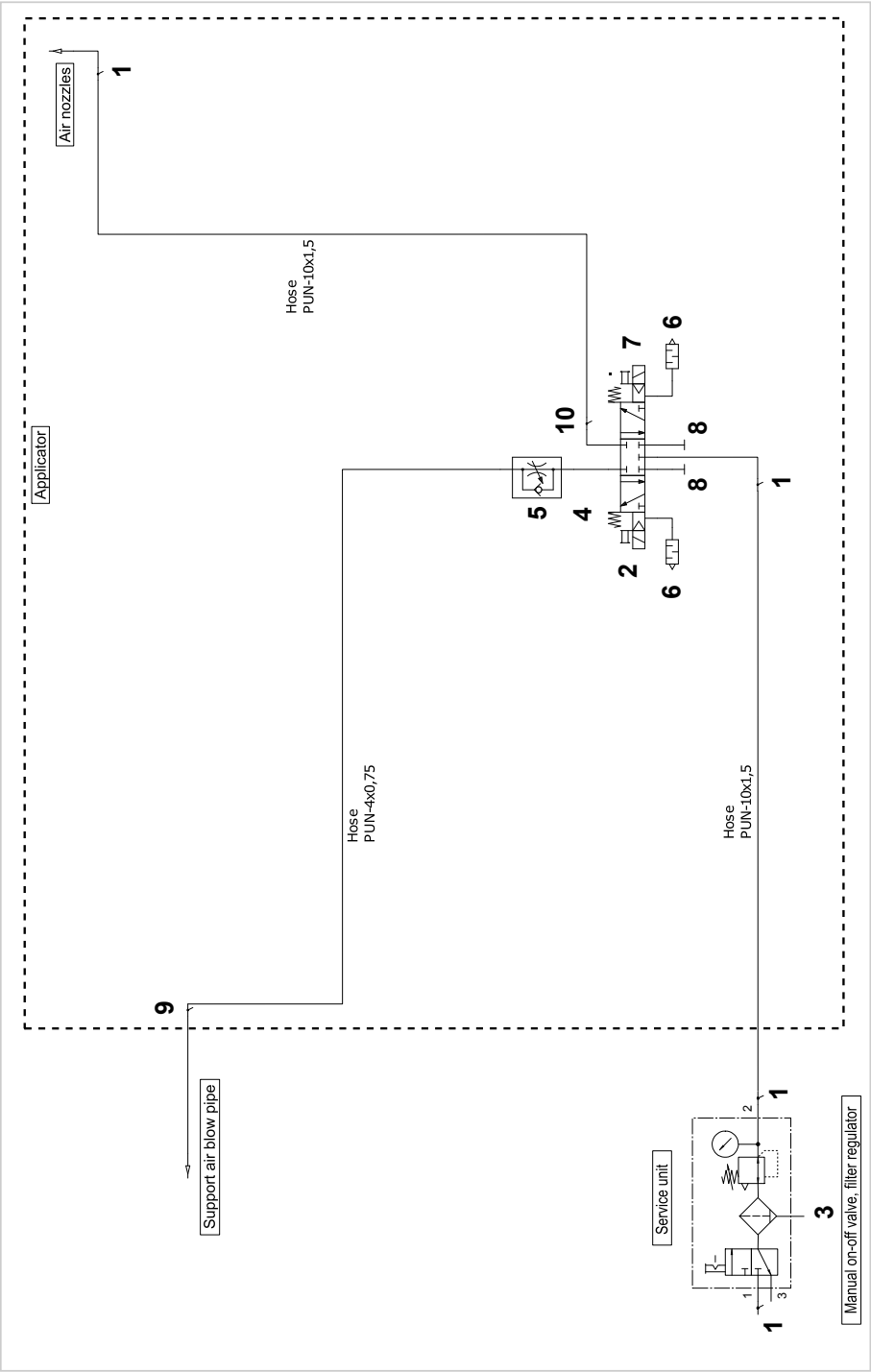


Fig. 19: Pneumatic diagram LA-BO

Pos. no.	Article no.	Amount	Designation
1	A8806	4	Push-in L-fitting
2	A8807	1	Solenoid valve
3	A8801	1	Service unit
4	A8808	1	Reducing nipple
5	A8805	1	Check valve with choke
6	A3667	2	Silencer
7	A9760	1	Socket connector
8	A8804	2	Plug
9	A8810	1	Push-in L-fitting
10	A8803	1	Push-in long L-fitting

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