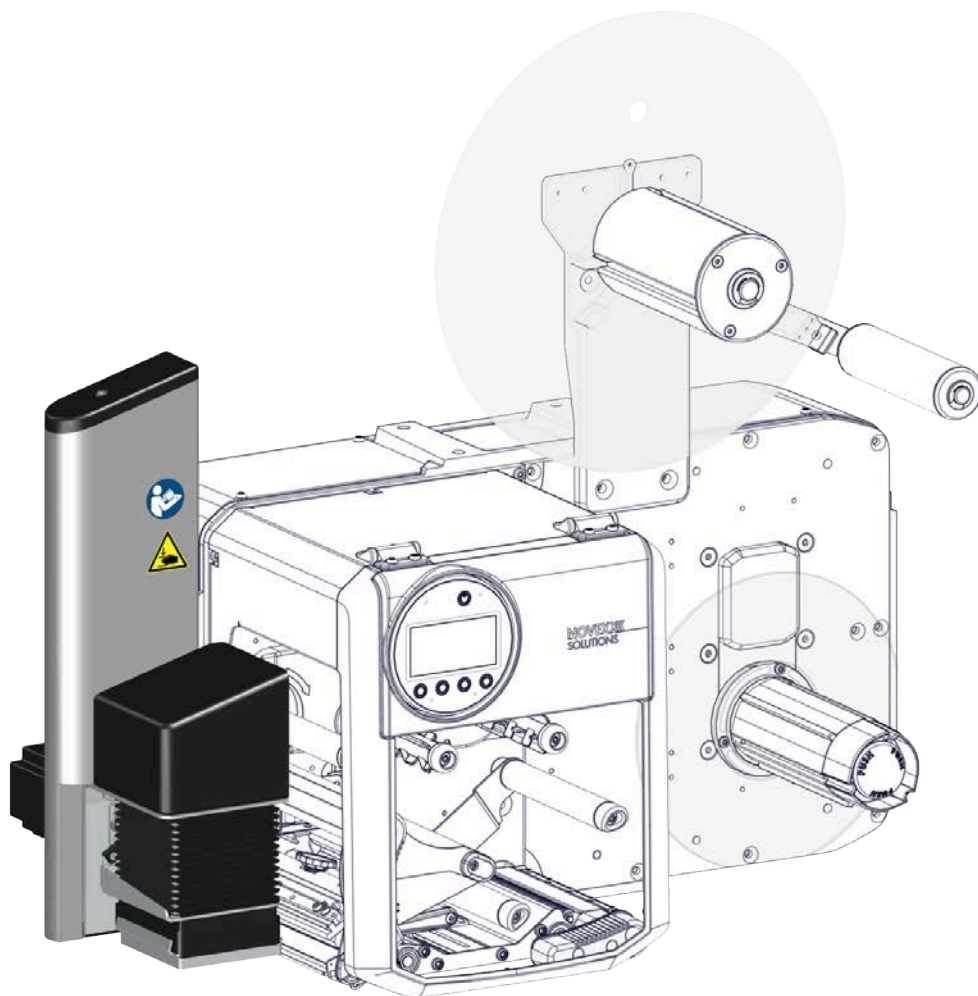


USER MANUAL

LTMA

Applicator for XPA 93x



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Please note!

GENERAL INFORMATION

Validity of this manual and required compliance

Contents

The complete operating manual for the applicator LTMA consists of the following parts:

| Manual | Target group | Medium | Availability |
|-----------------------|---------------------|----------|---|
| User manual | Operating personnel | PDF file | NOVEXX Solutions website www.novexx.com |
| Service manual | Service personnel | | NOVEXX Solutions Partner Portal www.novexx.com |
| Spare parts catalogue | | | |

The present *user manual* refers exclusively to the applicator LTMA. It is intended to help in proper installation, operation and adjustment of the applicator.

For technical questions not covered in this user manual:

- ▶ Follow the instructions of the service manual for the applicator and for the applied print & apply system or
- ▶ Request a service technician from our sales partner.

NOVEXX Solutions customer service department is available especially for configuration settings and malfunctions.

Liability

NOVEXX Solutions reserves the right:

- To make changes in design and components, and to use equivalent other parts than those specified in line with 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.

- Enumeration of features
- Other feature



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

Warning Notes

Warning notes are specially highlighted:



WARNING!

Warning notes with the signal word **WARNING** refer 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!**

Warning notes with the signal word **CAUTION** refer 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 the illustrations are shown in brackets, if necessary (see table).

| Reference to illustration | Application |
|---------------------------|---|
| none | <ul style="list-style-type: none"> • Only one illustration • Reference to the illustration is obvious • No position number in the illustration |
| (A) | <ul style="list-style-type: none"> • Only one illustration • Reference to the illustration is obvious • Position number in the illustration |
| (see fig. above) | <ul style="list-style-type: none"> • Several illustrations • No position number in the illustration |

| Reference to illustration | Application |
|---------------------------|---|
| (see fig. above, pos. A) | <ul style="list-style-type: none"> • Several illustrations • Position number(s) in the illustration |

Table 1: Different references to illustrations.

Normally the machine is shown as the *left version*.

Parameters

Parameters in the parameter menu are represented in the format **Menu name > Parameter name** in grey type.

SAFETY INSTRUCTIONS



WARNING!

Shearing movement between applicator and dispensing edge!
Risk of crushing of the fingers between applicator and dispensing edge and between the moving parts of the applicator!

- ▶ During operation: Keep your hands away from the applicator!
- ▶ Operate the applicator only when it is firmly installed on the machine.
- ▶ Before starting and work on the applicator, switch off the machine and remove the mains plug (e.g. installing or cleaning the applicator)

CAUTION!

Risk of damage to the applicator!

- ▶ Do not use the applicator as a carrying handle for the machine.



The safety instructions above apply in particular to the applicator LTMA. For safe operation of the print and apply system (the “machine”) XPA 93x with connected applicator LTMA, it is essential to also read and observe the safety instructions in the operating manual of the machine.

WARNING SYMBOLS AT THE APPLICATOR

CAUTION!

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

- ▶ Do not remove warning symbols.
- ▶ Replace missing or illegible warning symbols.

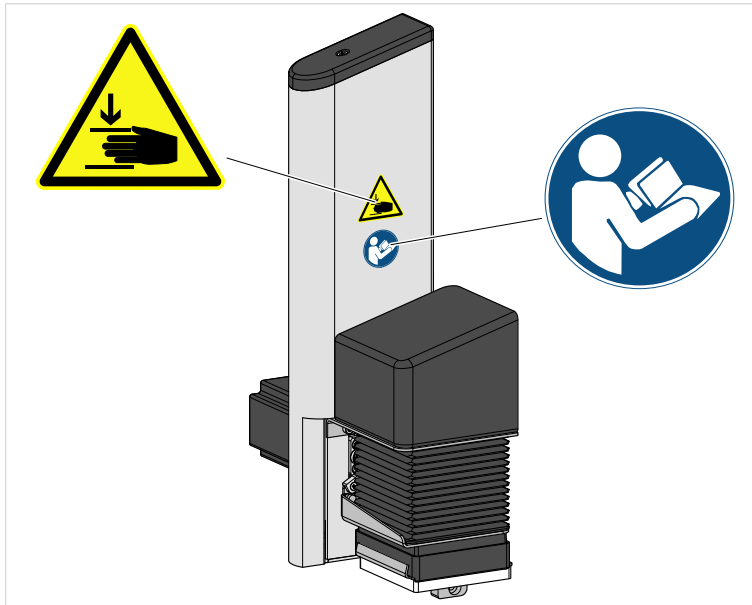


Fig. 1: Warning signs on LTMA.



| Warning symbol | Meaning | Order No. |
|---|---|-----------|
|  | The warning symbol "Danger of crushing" warns of dangerous movements of the device that could lead to crushing. | A103530 |
|  | The "Read manual" symbol prompts the user to read the Operating manual. | A5331 |

Table 2: Meaning of the warning symbols.

Product description

INTENDED USE

The Applicator LTMA is an additional device for XPA 93x print & apply systems (afterwards called “machine”) from NOVEXX Solutions.

The applicator takes one self-adhesive label at a time from the dispensing edge of the machine and sticks it onto a moving or stationary product after a linear extension movement. In contrast to direct dispensing without an applicator, a variable distance can be bridged between the dispensing edge and the product (for details, see the “Technical data” section). The “light-touch” function of the applicator makes it possible to label products of different heights.

The applicator is screwed to the machine via a swivel-mounted connecting element. It does not require a separate power supply, but is connected to the machine via a plug connector and supplied with power by the machine. For this, the machine must be equipped with an optional stepper motor output stage and the corresponding cabling.

The controller of the applicator is integrated into the firmware of the machine. The application process is triggered by one of the following 4 possibilities:

- Press a button on the operation panel of the machine
- Easy Plug immediate command (#!D) at the data interface
- Press an *optional* foot switch (connected to the machine)
- External start signal received via the *optional* signal interface (e.g. from a product sensor)

Working position: The LTMA is permanently connected to the XPA 93x during operation. The operating position is determined by the operating position of the machine, i.e. usually for labeling from above or from the side.

|| Side labeling is not permitted with the LTMA 80/400. ||

For details refer to the XPA 93x service manual, chapter “Commissioning” > “Space requirements / Permissible operating positions”.

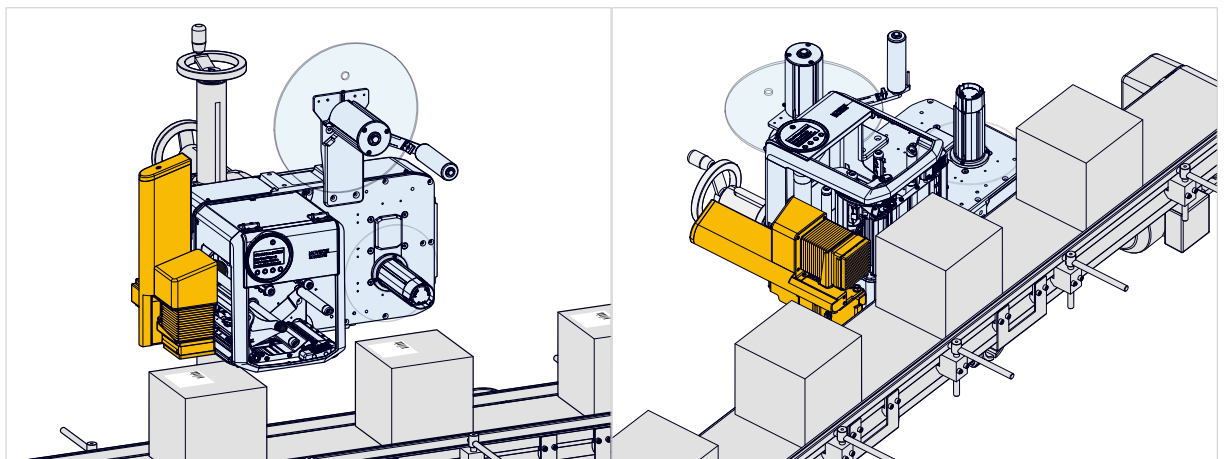


Fig. 2: Operating position for top labeling (left) and side labeling (right).

DESIGNATION & APPEARENCE

- *LTMA* stands for Light Touch Motor Applicator
 - LTMA 80/200: LTMA with 190 mm stroke length and 80 mm pressure pad
 - LTMA 80/400: LTMA with 400 mm stroke length and 80 mm pressure pad
- *Light Touch* means that the label is only pressed on lightly because the applicator immediately starts its return stroke as soon as it contacts the product. This allows products with varying heights to be labelled.

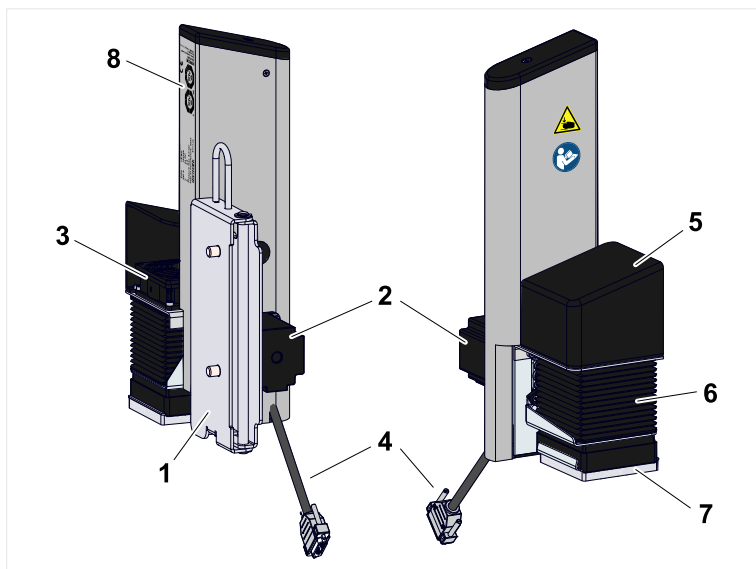


Fig. 3: Elements of the LTMA.

| Item | Description |
|------|-----------------|
| 1 | Adapter plate |
| 2 | Stepper motor |
| 3 | Fan |
| 4 | Connector cable |
| 5 | Fan cover |
| 6 | Bellows |
| 7 | Pressure plate |
| 8 | Rating plate |

FUNCTIONALITY

The LTMA waits in home position in front of the dispensing edge and draws the label onto the foam pad on its underside as soon as it has been dispensed. The vacuum necessary for this is generated by a fan.

- The pressure plate remains in front of the dispensing edge until a start signal is received.

After the start signal, the LTMA moves its pressure plate downwards until it encounters resistance (a product), presses the label onto the product and immediately returns to the home position in front of the dispensing edge.

- Alternatively: The pressure plate immediately moves to the waiting position, which is as close as possible to the product.

After the start signal, the pressure plate only covers the remaining distance to the product. This means that less time is required for the application process. After application, the applicator plate moves back to the home position in front of the dispensing edge, picks up the next label and then moves to the waiting position.

The automatic reversing function (“Light Touch”) allows products with different heights to be labelled. Any minor unevenness in the product surface is compensated by the foam pad of the applicator. The reversing function works very quickly, so that products with sensitive surfaces can also be labeled.

[Video “Applicator LTMA”](#)

TECHNICAL DATA

| | |
|--|--|
| Type of material | Self-adhesive labels |
| Label size (W x L) | min: 30 x 30 mm max: 80 x 80 mm |
| Stroke | LTMA 80/200: max. 190 mm LTMA 80/400: max. 400 mm |
| Minimum required stroke (distance between home position and product contact) | 30 mm |
| Application speed | max. 50 labels/minute |
| Product speed | max. 35 m/min |
| Application angle | 90° ± 3° |
| Application precision | ± 1 mm (on non-moving products) |
| Application force | 10 N (with 90° application angle) |
| Air current source | Fan |
| Weight | LTMA 80/200: 3.2 kg LTMA 80/400: ??? |
| Dimensions (W x H x D) | LTMA 80/200: 218 x 391 x 120 mm LTMA 80/400: 218 x 611 x 120 mm |
| Noise level | < 70 dB(A) |
| Ambient conditions | Closed rooms Working temperature: 5-40°C Storage temperature: 0-70°C Relative humidity: 30-80%, no water condensation |

Application speed and precision depend on several conditions (e.g. label size, stroke length, print speed, waiting position) that need to be optimized to reach the described results.

A performance test is advised upfront, especially for demanding applications.

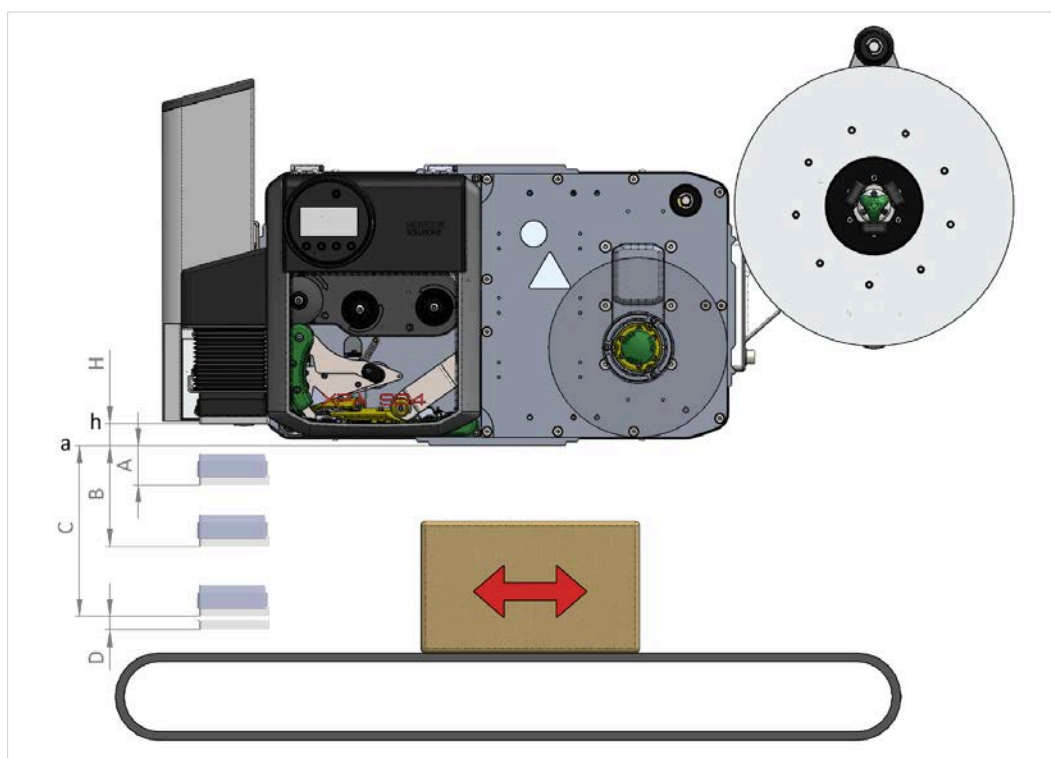


Fig. 4: Usable stroke length of the LTMA.

| DIM | Description | LTMA 80/200 | LTMA 80/400 |
|-----|-----------------------------|---------------|---------------|
| H | Distance h - a | approx. 25 mm | approx. 25 mm |
| h | Applicator home position | | |
| a | XPA 93x lowest edge | | |
| A | Min. distance below XPA 93x | 10 mm | 10 mm |
| B | Waiting position min/max | -5 / 130 mm | -5 / 220 mm |
| C | Max. distance below XPA 93x | 155 mm | 365 mm |
| D | Min. reverse path | 10 mm | 10 mm |

Parameter settings are not limited to the individual positions and are related to the applicator home position.

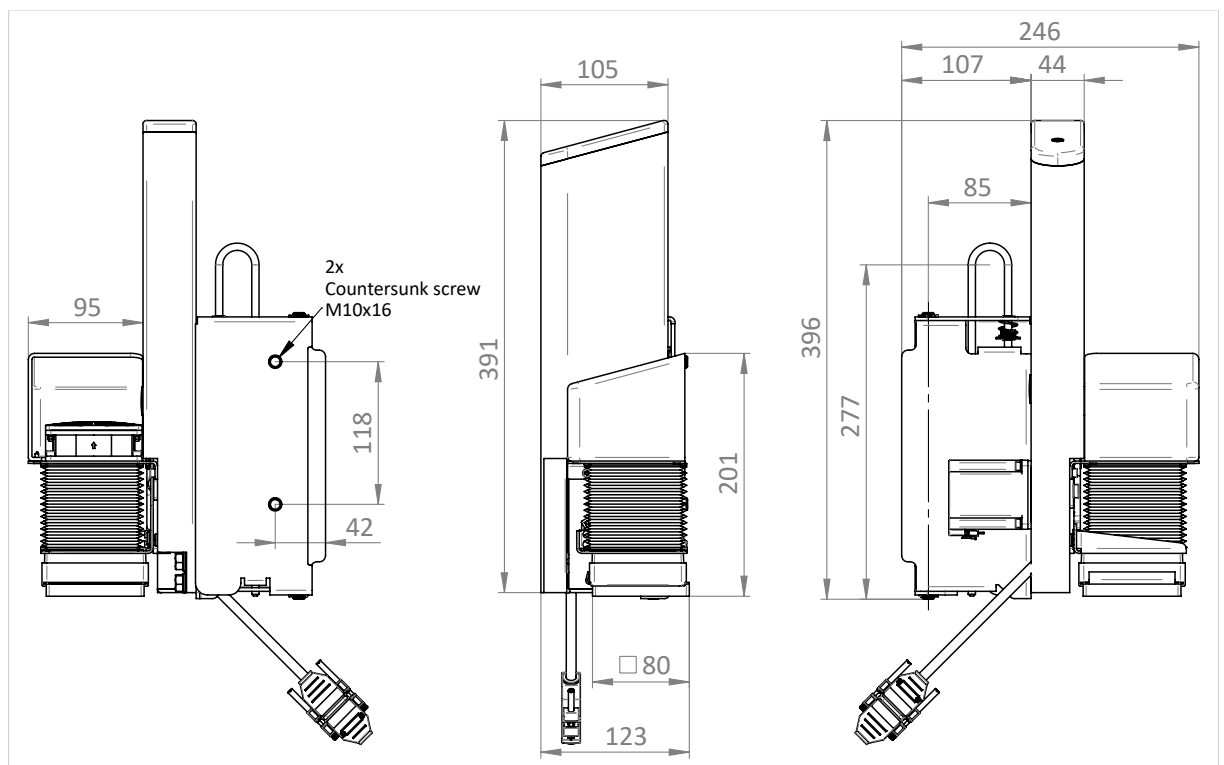


Fig. 5: Dimensions of the LTMA 80/200.

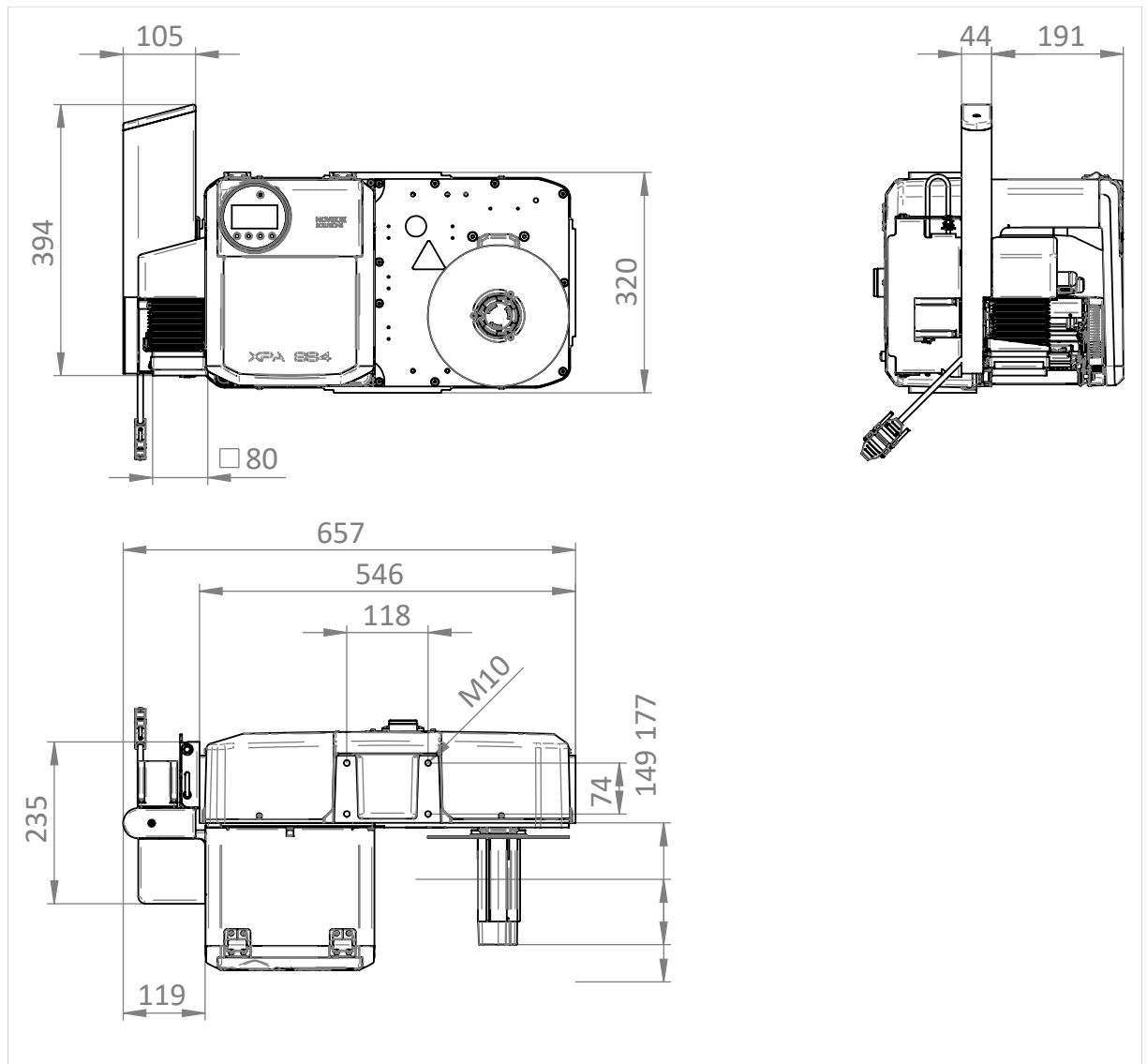


Fig. 6: Dimensions of the XPA 934 with LTMA 80/200.

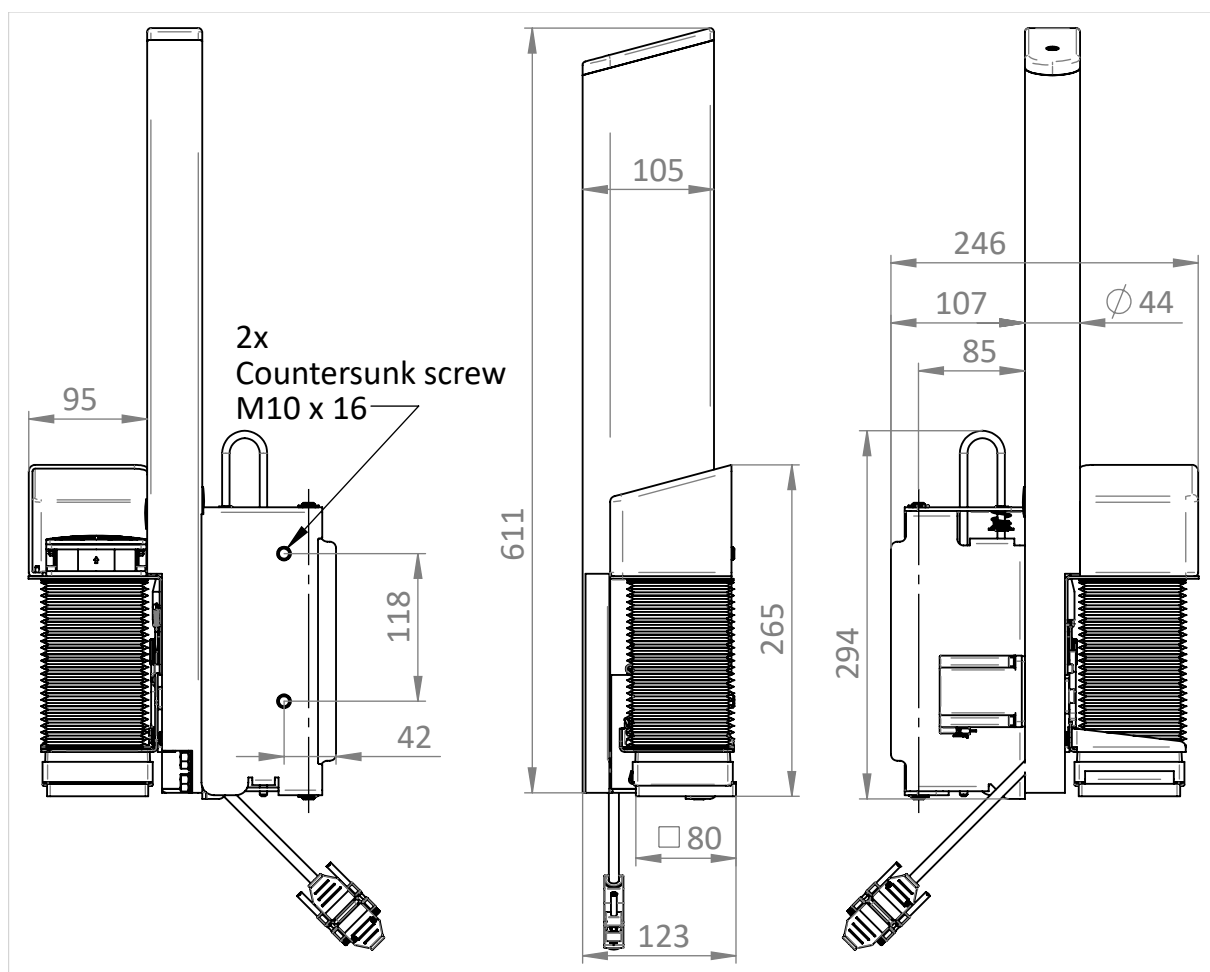


Fig. 7: Dimensions of the LTMA 80/400.

SYSTEM REQUIREMENTS

Required minimum firmware version


BEL-V7.0 or higher

Machine

XPA 93x LH, product code E480-03 or higher

Required components

The following components must be available for operation of a LTMA:

| Pos. | Designation | Contained in parts kit |
|------|----------------------------|---|
| A | Applicator LTMA | For LTMA 80/200: N104257 upgrade kit for XPA 93x LH For LTMA 80/400: N104258 upgrade kit for XPA 93x LH |
| B | D-Sub extension cable | |
| C | D-Sub cable harness | N104049 Periphery kit for XPA |
| D | Stepper motor output stage |  Installation only by qualified service personnel, see XPA 93x service manual. |

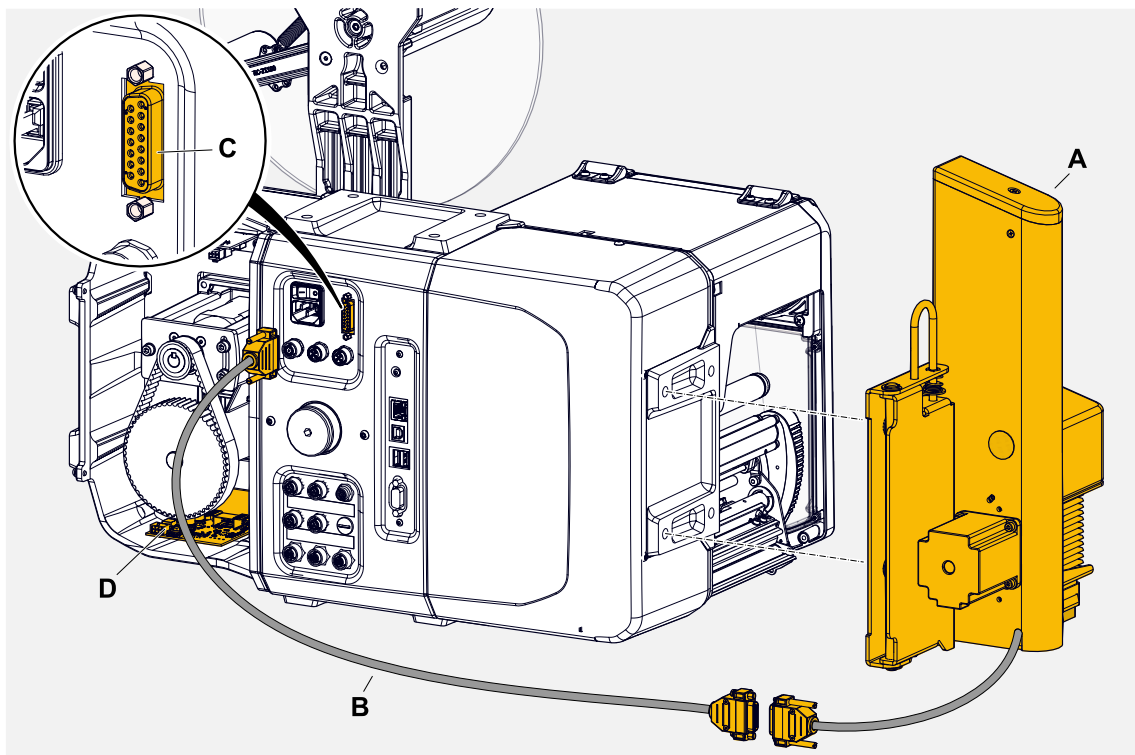


Fig. 8: The parts marked in color are required for operating the LTMA on the XPA 93x.

PARAMETERS

Activating the applicator in the printer menu

► Activating the LTMA: Options > Selection > Periph. device = "LTMA"

| | |
|----------------|----------------|
| Options | |
| └ | Selection |
| └ | Periph. device |

After activating the LTMA, the following parameters appear additionally in the menu:

| | |
|----------------|------------------|
| Options | |
| | LTMA |
| └ | Apply mode |
| └ | Stroke length |
| └ | Appl. waitpos. |
| └ | Applicator speed |
| └ | Restart delay |

Apply mode

| Setting range | Default setting | Step width | Easy Plug |
|--|------------------|------------|-----------|
| After start sig., After print, After custom start sig. | After start sig. | -- | #PC3102 |

Defines, if the application process starts with applying ("After start sig.") or with printing ("After print"). Requirements: Printjob transferred, machine is ready for operation.

- *After start sig.*: The start signal triggers the application of an already printed and dispensed label. After applying the label, the next one is immediately printed and dispensed.
- *After print*: The start signal triggers the retraction under the print head, printing, dispensing and application of a label.
- *After custom start sig.*: Enables the application process to be controlled via XApps (for details refer to chapter **XApps**).

Stroke length

| Settings | Default setting | Step width | Easy Plug |
|--------------|-----------------|------------|-----------|
| [30..400] mm | 400 mm | 1 mm | #PC3153 |

|| Only with installed and activated LTMA. ||

CAUTION!

Risk of malfunction if the stroke length is set incorrectly.

- Set the stroke length on the LTMA 80/200 to a maximum of 190 mm.

If the applicator foot reaches the stroke length without touching a product, it returns automatically to home position and the printer shows an error message. For applications with short stroke length, the stroke length can be reduced accordingly.

Appl. waitpos.

(Applicator waiting position)

| Settings | Default setting | Step width | Easy Plug |
|-------------------|-----------------|------------|-----------|
| [Off, 20..399] mm | Off | 1 mm | #PC3154 |

|| Only with installed and activated LTMA. ||

|| Only works with the setting Options > LTMA > Apply mode = "After start sig.". ||

- *Off* (Value < 20 mm): Waiting position *not* activated: The applicator foot waits in front of the dispensing edge (home position) for the start signal.
- Waiting position activated (value > 20 mm): After the label has been dispensed onto it, the applicator foot moves to a waiting position below the home position. Advantage: shorter application time due to the shorter (rest) stroke.

Applicator speed

| Settings | Default setting | Step width | Easy Plug |
|----------------|-----------------|------------|-----------|
| [80..580] mm/s | 350 mm/s | 1 mm/s | #PC3155 |

|| Only with installed and activated LTMA. ||

Setting of the speed, with which the applicator foot approaches the product.

Restart delay

| Setting range | Default setting | Step width | Easy Plug |
|----------------|-----------------|------------|-----------|
| [0...99999] ms | 0 ms | 1 ms | #PC3108 |

Determines the length of time after application for which no start signals will be accepted.

Related reference

[Settings in the parameter menu](#) on page 20

Commissioning

INSTALLING LTMA

Describes how the LTMA is installed to a XPA 93x print & apply system.

Before you begin

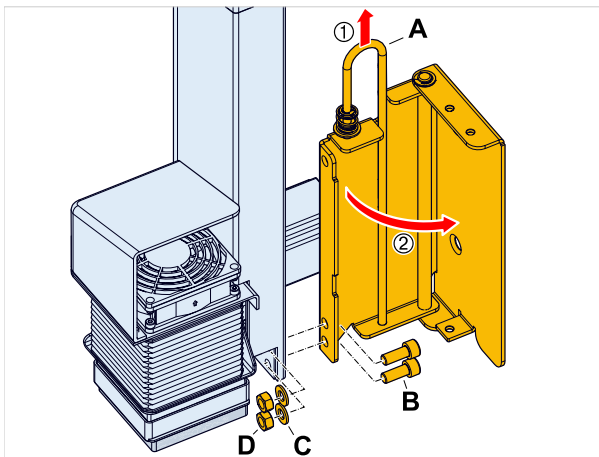
- XPA 93x LH with periphery preparation is available
- LTMA for XPA 93x is available

Tools:

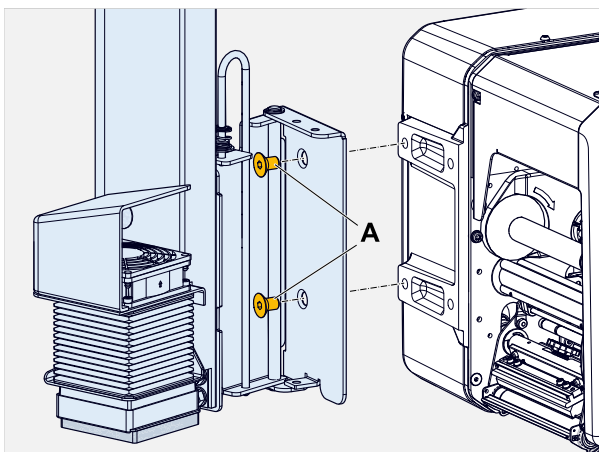
- Hex socket screwdriver 6 mm
- Spanner SW 13

Procedure

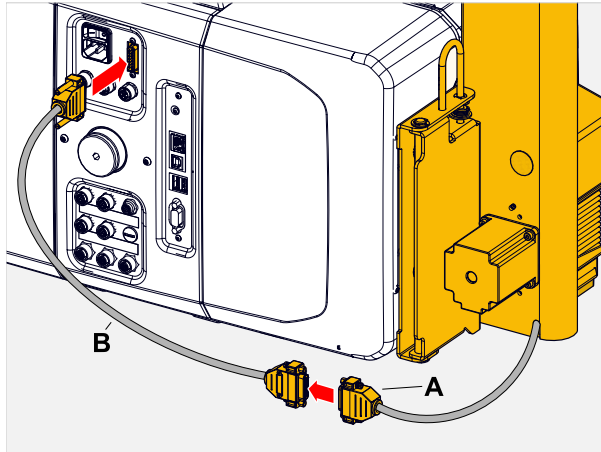
1. Open the swivel unit. To do so, pull the locking rail (A) upwards:



2. (Optional) Screw the swivel unit to the applicator. Use the supplied screws, washers and nuts (image above: B, C, D).
3. Screw the applicator with the swivel unit to the flange of the machine (use supplied screws (A)):



4. Swivel the applicator into the working position. While doing so, pull the locking rail upward and snap it into the holes provided for this purpose.
5. Switch off the machine.
6. Connect the applicator connection cable (A) to the extension cable supplied (B). Connect the extension cable to the peripheral connection of the machine:



What to do next

- ▶ Make settings in the parameter menu.
- ▶ Adjust the applicator.

SETTINGS IN THE PARAMETER MENU

Describes which settings are required in the printer's parameter menu for applicator operation.

Overview of parameter settings

Activating the applicator:

- ▶ Options > Selection > Periph. device = "LTMA".

As soon as "LTMA" is selected as peripheral device, the submenu Options > LTMA with parameters for setting the dispensing and applicator functions are also displayed.

The submenu Options > BasicIO only appears with the BasicIO board installed (option), which is a prerequisite for operating the LTMA.

- ▶ Set the parameters according to the table:

| Submenu | Parameter | Setting | Mandatory | Default |
|----------------------------------|------------------|--|-----------|---------|
| Options > BasicIO > Start Sensor | Start signal | Singlestart | X | X |
| Options > Selection | Periph. device | LTMA | X | |
| Dispenser > Start signal | Start print mode | "Pulse rising" or "Pulse falling" | X | X |
| | Start source | Foot switch | X | |
| | Application mode | Immediate mode | | X |
| Dispenser | Dispense Mode | Real 1:1 mode | X | X |
| | Dispenseposition | 0 mm | | |
| | Dispensing edge | Short | X | X |
| | Apply mode | After start sig. | | X |
| Options > LTMA | Stroke length | LTMA 80/200: max. 190 mm LTMA 80/400: max. 400 mm | | X |
| | Appl. waitpos. | 0 mm | | X |
| | Applicator speed | 350 mm/s | | X |
| | Restart delay | 0 ms | | X |

Table 3: List of the most important parameters for applicator operation. The parameters marked "Mandatory" must be set as shown in order that the applicator functions. The settings for the other parameters are given as recommendations and can be changed, depending on the application.

Further parameters for integration of the printer into an application with product conveyor and product sensor are available in submenu "Dispenser". In addition, the optional signal interface (BasicIO board) is necessary for automatic applications for the processing of external start signals.

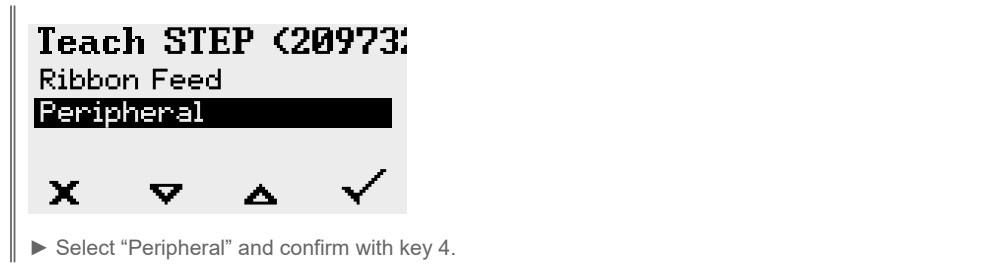
For further information on parameter settings, refer to the Operating manual XPA 93x, chapter "Product description" > "Parameter menu".

Deactivating the applicator:

- ▶ Options > Selection > Periph. device = "None".

XPA 93x without ribbon saving option from firmware version BEL-V6.0 onwards:

After deactivating a peripheral device (Options > Selection > Periph. device = "None"), the stepper motor output stage must be reassigned its function. The following dialog appears:



Setting the dispensing position

For operation of the LTMA, the dispensing position should be set so that the label is just dispensed and no longer adheres to the backing material. Advancing of the backing material too far can result in threads of the adhesive pulling the label down.

Setting:

- ▶ Set parameter `Dispenser > Dispenseposition` to the desired value.

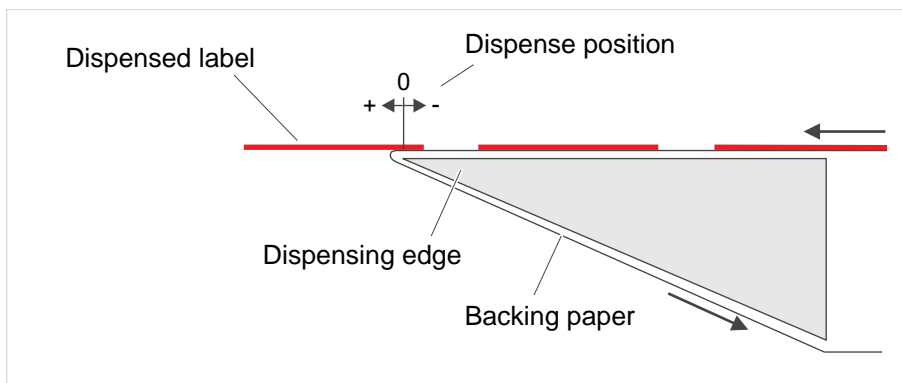


Fig. 9: Schematic view of the dispensing position.

For further information on parameter settings, refer to the Operating manual XPA 93x, chapter "Product description" > "Parameter menu".

SETTING THE APPLICATOR HOME POSITION



WARNING!

Risk of crushing between the applicator and dispensing edge and between the moving parts of the applicator!

- ▶ Carry out adjustments only with the printer switched off.
- ▶ Hold or fix the applicator foot in extended position, otherwise it will fly back at high speed into the home position - Risk of crushing!
- ▶ During trial operation: Keep your hands away from the applicator!

Before you begin

- XPA 93x with LTMA is available
- The settings have been carried out in the parameter menu of the printer (see chapter [Settings in the parameter menu](#) on page 20)

About this task

In order for the labels to slide smoothly onto the applicator pressure plate after dispensing, the home position of the applicator pressure plate must be checked and adjusted, if necessary, after installation of the LTSA/LTMA. When viewed from the side, the pressure plate must be slightly above the dispensed label (distance B) and slightly ahead of the dispensing edge (distance A).

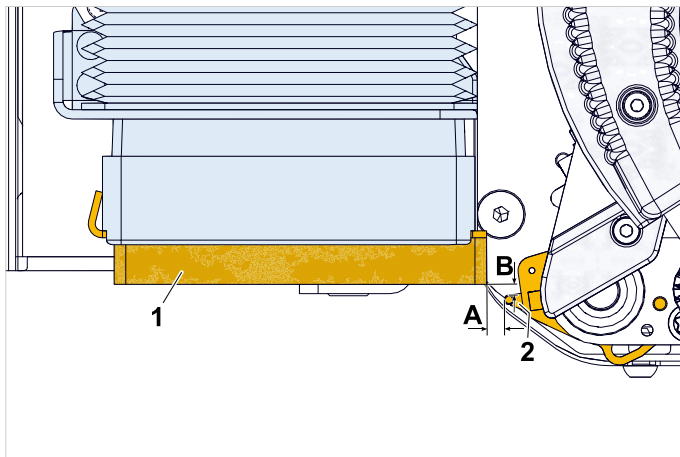



Fig. 10: Setting the home position of the pressure plate (1). A = Horizontal distance (setpoint: 1 mm), B = Vertical distance (setpoint: 0.5 mm).

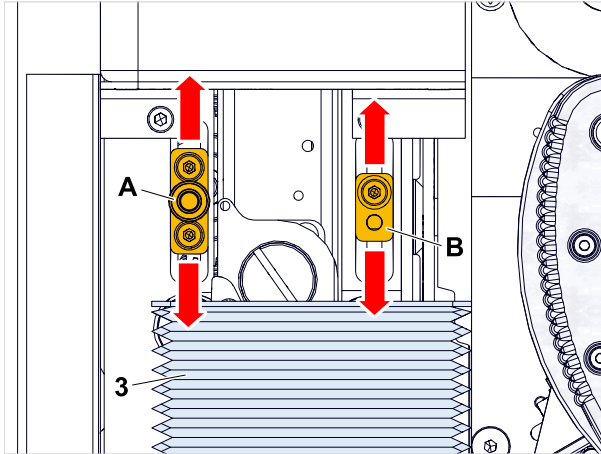
|| Triggering the applicator without printing/dispensing: press the key below the  icon. ||

Procedure

1. Switch on printer.
After booting of the printer and initialisation of the applicator (brief up-and-down movement), the pressure plate is in home position.
2. Check the position of the pressure plate (1) relative to the dispensing edge (2). If adjustment is necessary, determine and note the necessary adjustment distance (horizontal and vertical).

If necessary, carry out the adjustment as follows:

3. Switch off the printer.
4. Carefully loosen the bellows (3) at the upper end (Velcro fastener).



5. Pull the applicator foot down so that the two motion links (A and B) are accessible.

|| Hold or fix the applicator foot in extended position, otherwise it will fly back at high speed into the home position! ||

Adjusting the horizontal position:

6. Unscrew motion link (A), adjust according to the table and screw tight again.

| Moving motion link A towards | --> moves the pressure plate towards |
|------------------------------|--------------------------------------|
| top | front (distance A becomes larger) |
| bottom | rear (distance A becomes smaller) |

Adjusting the vertical position:

7. Unscrew motion link (B), adjust according to the table and screw tight again.

| Moving motion link B towards | --> moves the pressure plate towards |
|------------------------------|--------------------------------------|
| top | top |
| bottom | bottom |

8. Switch on printer.
9. After initialisation of the applicator, check the home position. If necessary, repeat steps 3 and 9 until the home position is correctly adjusted.

|| In home position , the applicator must not reach the upper limit! ||

10. Secure the bellows again.
11. Switch on the printer and apply a test label.


Operation / Malfunction / Cleaning

OPERATION

The LTMA is ready for operation when it has been installed, connected and activated. The label dispensing process can be started from one of the following sources as soon as a print job has been transmitted and interpreted:

- Press a button on the printer operation panel
- Easy Plug immediate command (#!D) at the data interface
- Press an *optional* foot switch (connected to the printer)
- External start signal received via the *optional* signal interface (e.g. from a product sensor)

Manual starting signal by pressing a button


1. Switch to the “Home” display.
2. Press the button under the symbol .

A label from the print job is printed, dispensed and applied.

|| The last label of a print job can only be triggered by a start signal, not by pressing the apply button ||
at the operating panel.

Automatic start signal at the signal interface

When a start signal from an external signal source ^[1] is received at the signal input of the optional I/O board, a label from the print job is printed, dispensed and applied.

 For details about printing with start signal and about the pin assignment, refer to the XPA 93x service manual, chapter “Electronics Description” > “Boards” > “BasicIO”

—

¹ e. g. from the optional foot switch

REPLACING THE PRESSURE PLATE

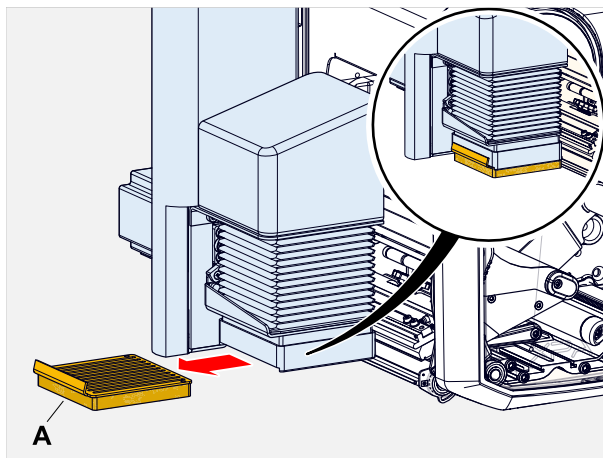
About this task

When the foam pad on the pressure plate has become so worn that the function of the applicator is impaired, the pressure plate has to be replaced.

|| Application of labels to moving products places a greater burden on the pressure plate than application to stationary products. ||

Procedure

1. Switch off the printer.
2. Push pressure plate (1) forwards out of the applicator foot.



3. Insert a new pressure plate.
Item no.: A4487

REMEDYING MALFUNCTIONS

Status messages

Malfunctions in the applicator generally have one of the following causes:

- The applicator is prevented from moving
- The sensors that limit the movement of the applicator are defective, soiled or not correctly connected
- The printer is not correctly adjusted




| Status message | Cause | Measure |
|-----------------------|--|---|
| 5200 Home position | The applicator has not reached its home position within the assigned time period. | <i>For all status messages:</i> ▶ Check whether the applicator can move unhindered. If necessary, remove any obstacles. |
| 5201 Touch down | The applicator has not reached the product (touch down position) within the set stroke length ^[2] . |  ▶ Check whether the cable(s) is/are correctly connected. |
| 5203 Touch down sens. | The touchdown sensor(s) was/were already actuated before the application process. |  ▶ Check whether the sensor(s) is/are soiled.  ▶ Check whether the sensor(s) is/are defective. <i>For 5203 Touch down sens.:</i> ▶ Check, if a product was available. ▶ Check, if the applicator has hit the product. |

Table 4: Overview: Status messages possibly caused by an applicator malfunction.

² Setable by Options > LTMA > Stroke length

CLEANING

Safety

**WARNING!**

Shearing movement between applicator and dispensing edge!

Risk of crushing of the fingers between applicator and dispensing edge and between the moving parts of the applicator!

- ▶ Before cleaning the applicator, switch off the printer and remove the mains plug

Cleaning interval

- ▶ Clean the machine regularly.

The frequency depends on the following factors:

- Operating conditions
- Daily operating duration

Cleaning

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 agent:

- Compressed air, vacuum cleaner (if available)
- Methylated spirits (ethanol) or isopropyl alcohol

To perform:

- ▶ Blow off dust and abrasion with compressed air or remove using a vacuum cleaner (if compressed air or vacuum cleaner is available)
- ▶ Dampen a cloth with methylated spirits or isopropyl alcohol and wipe down the machine.

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