

USER MANUAL

XPA 934/935/936

Print & Apply System



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Please note!

GENERAL NOTES

Validity of this manual and required compliance

Contents

The complete operating manual for the XPA 934, XPA 935 and XPA 936 print & apply systems (referred to in the following as “XPA 93x”, “machine” or “printer”) consists of the following parts:

Manual	Target group	Medium	Availability
User manual	Operating personnel	PDF file	NOVEXX Solutions web page www.novexx.com
Installation manual	System integrator, service personnel		
Service manual	Service personnel		NOVEXX Solutions Partner Portal https://partner.novexx.com ^[1]
Manual “How to RFID with printers from Novexx Solutions” ^[2]			
Spare parts catalog			

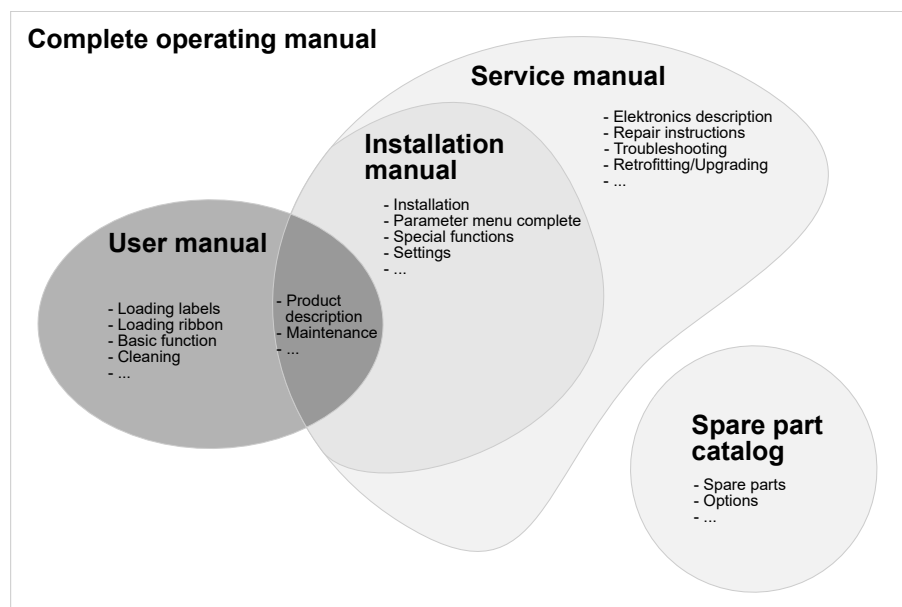


Fig. 1: Overview (schematic) of the contents of the individual manuals in the operating manual.

This user manual refers exclusively to the machine types named above. It is used for proper operation and adjustment of the machine.

The machine must be properly installed and configured to allow for operation and settings.

¹ Access only for registered partners of NOVEXX Solutions.

² Only for printers with RFID option.

- For information about the required qualification, see chapter **Information and Qualification**.
- For information about installation and configuration, refer to the installation manual or to the service manual.

For technical questions not covered in this user manual:

- ▶ Follow the instructions of the installation manual or to the service manual for the machine or
- ▶ Request a service technician from our sales partner.

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

RH/LH

The XPA 93x is available in right hand (RH) and left hand (LH) versions. The machine operation described in this manual is based on the LH version. The RH version is only taken into account if the explanations or figures of the designs differ significantly.

Also refer to chapter **RH/LH** on page 14.

Technical release

Technical release: 4/2026

Firmware version: BEL-V8.1

User manual version: 18 - 6/2026

Technical release with RFID option

Technical release: 6/2026

Firmware version: BEL-V8.T24550

 With this firmware version, the RFID option is released for the following countries: USA, Canada.

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!

 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	• Only one illustration • Reference to the illustration is obvious • No position number in the illustration
(A)	• Only one illustration • Reference to the illustration is obvious • Position number in the illustration

Reference to illustration	Application
(see fig. above)	• Several illustrations • No position number in the illustration
(see fig. above, pos. A)	• Several illustrations • Position number(s) in the illustration

Table 1: Different references to illustrations.

Parameters

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

SAFETY INSTRUCTIONS

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.

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 machine and perform service work at the machine 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 machine type offered by the manufacturer.
- The service personnel must be acquainted with the functionality of the machine.

- The system integrator must be acquainted with the functionality of the of the system into which the machine is being integrated.

Tasks	System integrator	Operator	Service technician
Mount 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 ^[3]	X	X	X
Clean the machine		X	X
Rectify major operating faults ^[4]			X
Settings to the electronics/ me- chanics			X
Repairs			X
 Manuals:	Service Manual, Installation Manual	User Manual	Service Manual, Spare Parts Catalog

Making Note of Information

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

- Before beginning operation, read this user manual and follow all of the instructions.
- Observe all additional safety and warning information given on the machine.
- Only technically knowledgeable persons are permitted to operate the machine 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 user manual.

Operating Safety of the Machine

Intended use

The print & apply system XPA 93x (afterwards “the machine”) is designed for printing, dispensing and applying self-adhesive labels using the direct thermal or thermal transfer procedure.

The print & dispense module XDM 94x (afterwards “the machine”) is designed for printing and dispensing self-adhesive labels using the direct thermal or thermal transfer procedure.

The print module XPM 94x (afterwards “the machine”) is designed for printing self-adhesive labels using the direct thermal or thermal transfer procedure.

³ For example faults when detecting labels

⁴ For example incorrect labelling

Various combinations of thermal transfer ribbons and label materials are used and must be available in the form of rolls.

The label material that is used must be punched, i.e. the self-adhesive labels adhere individually, separately by punchings, on a carrier material. The labels must only adhere strongly enough so that they will come loose when the material is deflected over a sharp edge.

Usually, print & apply systems are integrated into a superordinate system, e.g. a packaging system, by a system integrator. The labels are typically attached to products, which are moved by an automatic conveyor.

The XPA 93x is usually mounted on a support stand.

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.

The system integrator must install the machine with suitable equipment to protect operating personnel from danger; for example, the danger of the hands or fingers being crushed by reaching in between the product and the dispensing edge.

Improper usage of the machine can cause accidents, property damage and production downtime!
Therefore:

- ▶ Only use the machine in accordance with the instructions specified in the user manual.
- ▶ Do not operate the machine without the required safeguards.
- ▶ Only configure the machine in accordance with the user manual and with the required care.
- ▶ Only use original accessories.
- ▶ Do not make any modifications or alterations to the machine.
- ▶ Repairs to the machine may only be performed by authorised specialists who are aware of the risks involved.

Warning of injuries due to electrical shock

- This machine operates at *mains voltage*! Contacting electrically live components can cause lethal electrical shocks and burns. Therefore:
 - ▶ Only operate the machine once the housing has been reassembled properly.
 - ▶ The machine may only be connected by authorised specialists, who are aware of the risks involved.
 - ▶ Only link the machine to devices that fulfil the ES1 circuit requirements specified in EN 62368-1.
 - ▶ Make sure that the power switch at the machine is accessible.
- The machine is not protected against *splashing water*. Therefore:
 - ▶ Keep the machine dry.
 - ▶ Before cleaning, switch off the machine and remove the power cable from the socket.
 - ▶ If liquids have penetrated the machine, switch it off and unplug the power cable immediately. Inform a service technician.
- The machine is only completely *disconnected from the mains* if the power cable is unplugged. Therefore:
 - ▶ Make sure the power supply socket is accessible.
 - ▶ In case of emergency, switch off the machine and disconnect the power cable.
- If the *supply voltage* is too high or too low, the machine may be damaged. Therefore:

- ▶ Only operate the machine at the mains voltage given on the type plate.
- ▶ Ensure that the mains voltage set on the machine corresponds to the local mains voltage.

Warning of injury hazards from mechanical components

- Danger of injury due to moving and rapidly *rotating parts*! Therefore:
 - ▶ 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.
- Danger levers work by spring tension and may *snap back* if the track tension of the label material suddenly decreases. Therefore:
 - ▶ Always keep clear of the range of motion of the dancer levers.
- *Entanglement* hazard! Therefore:
 - ▶ 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.
- *Crushing* hazard on the dispensing edge due to products on the conveyor equipment! Therefore:
 - ▶ If the machine is running or ready for operation, never reach between the product and the dispensing edge.
 - ▶ Never remove or bypass the protective equipment to prevent reaching in while the machine is in operation.
- *Tripping* hazard! Therefore:
 - ▶ Lay the connection cable and pneumatic hoses (if fitted) so that no one can trip over them.
- Danger of injury caused by *falling label roll*! Therefore:
 - ▶ Wear safety shoes.
- In applicator mode: Danger of *crushing* between dispensing edge and applicator pressure plate due to applicator movement!
 - ▶ The applicator must only be operated with higher-level protective equipment (movable, locked, separating protective equipment (EN 953)).
 - ▶ If the machine is running or ready for operation, never reach between the applicator and the dispensing edge.
 - ▶ Never remove or bypass the protective equipment to prevent reaching in while the machine is in operation.
- *Danger of cutting*! Be careful when sliding on/removing the ribbon rolls! There are sharp-edged clamping plates on the ribbon mandrels.

Warning notes on the machine

CAUTION!

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

- Do not remove warning notes.
- Replace missing or illegible warning notes.

Warning note	Meaning	Article no.
	The "Pinch point" warning note warns of the danger posed by the machine's rotating parts; they can trap items and draw them in.	A5346
	The "Hot surface" symbol warns of a burn hazard if the surface is touched. Allow the machine to cool off before touching it.	A5640
	The blue label "Read manual" demands that operators read the user manual.	A5331

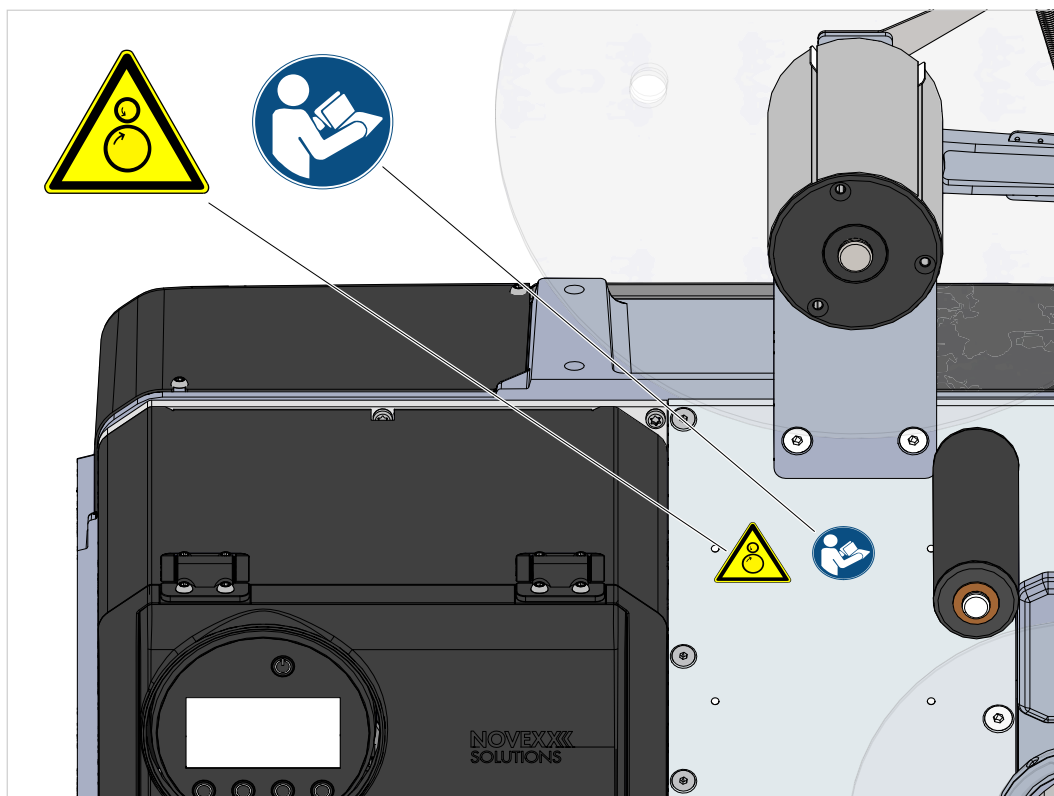


Fig. 2: Warning notes on the XPA 93x.

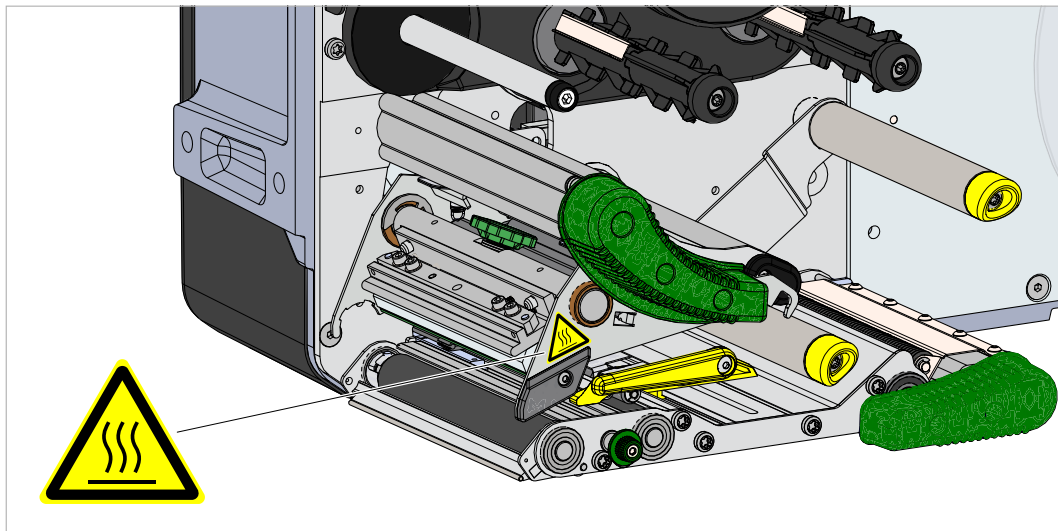


Fig. 3: Warning note on the XPA 93x.

Product Description

DESIGN MODELS

RH/LH

The XPA 93x is available as right hand (RH) and left hand (LH) machine.

- XPA 93x RH: The label comes out of the machine on the *right*
- XPA 93x LH: The label comes out of the machine on the *left*

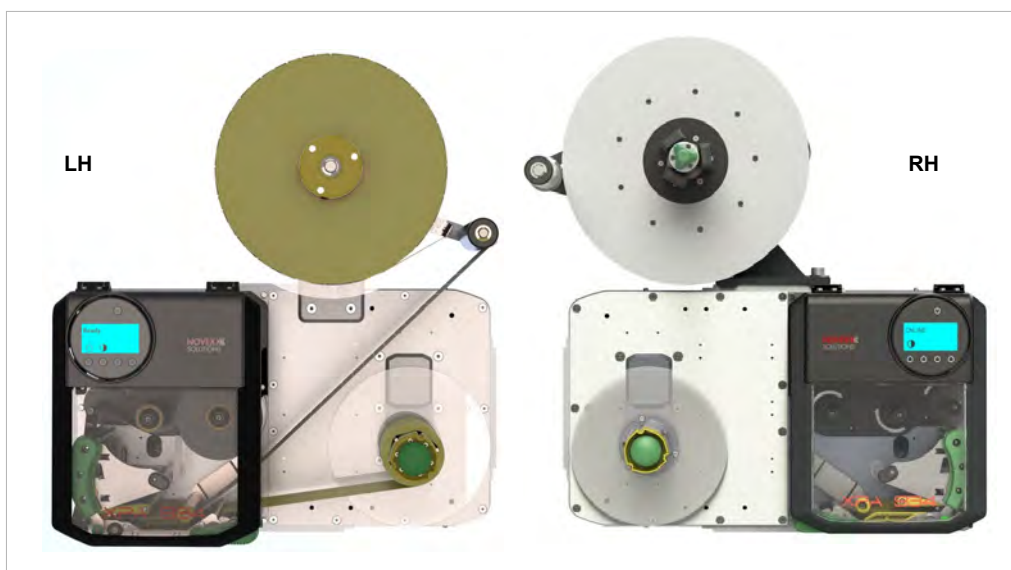


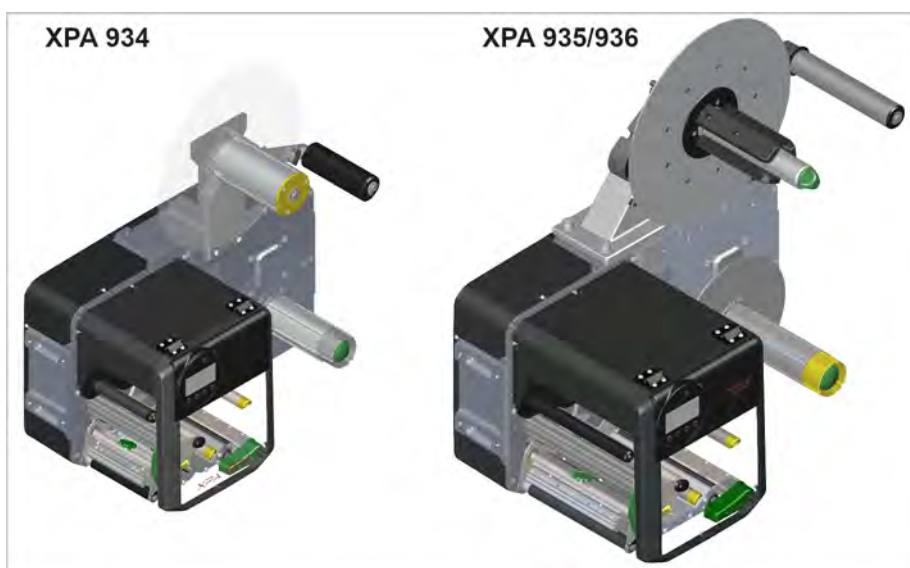
Fig. 4: XPA 93x LH and RH (left: "Compact" unwinder; right: "Pro 300" unwinder).

Print width

The XPA 93x is available with 3 different print head widths. The last digit in the machine name stands for the maximum print width in inches:

- XPA 934: 4 Inch (106 mm) print width
- XPA 935: 5 Inch (128 mm) print width
- XPA 936: 6 Inch (160 mm) print width

The different print widths require 2 different casing depths, respectively for XPA 934 and for XPA 935/936:



With or without automatic ribbon economy (option)

The machine is optionally available with or without automatic ribbon economy (= “ribbon saving”).

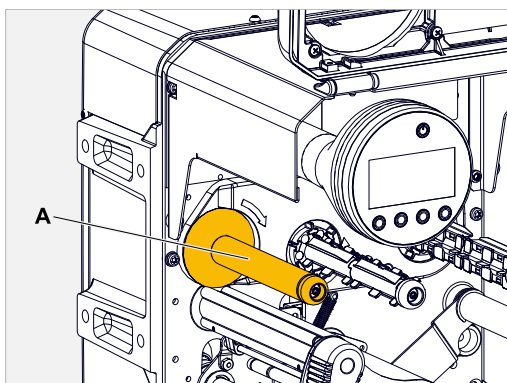


Fig. 5: Identification feature: *With ribbon saving*: The ribbon roller (A) is rubberized; *Without ribbon saving*: The ribbon deflection roller (A) has a metal surface.

Function of automatic ribbon economy

In regular print mode without ribbon saving, ribbon is fed simultaneously with the labelling material. As a result, ribbon is also consumed over unprinted areas of the label. Ribbon saving stops the feeding of the ribbon if there are label areas of a certain size without imprinting. As a result, ribbon is saved (picture below).

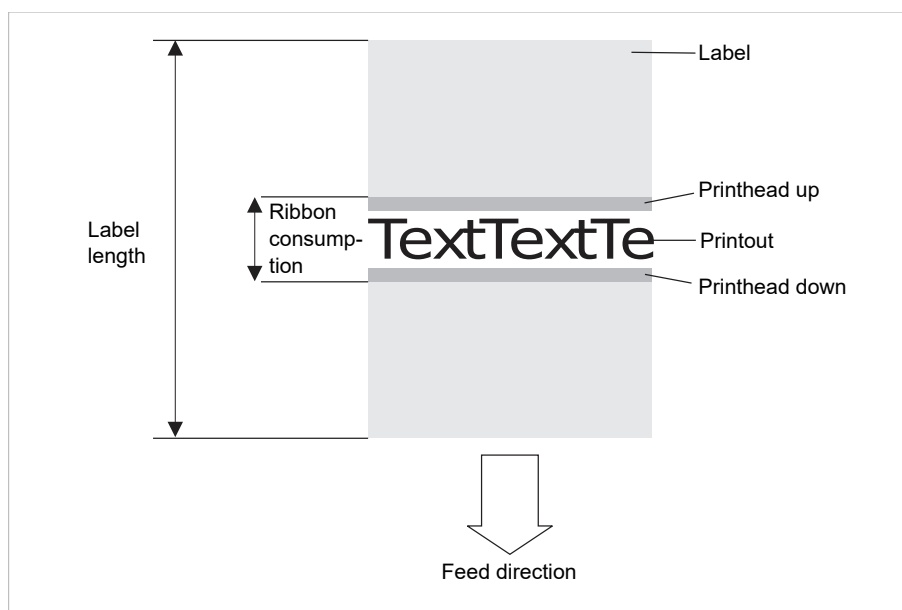


Fig. 6: Ribbon consumption when printing labels with a small imprinting area and activated automatic ribbon economy. Ribbon consumption is slightly higher than the length of the imprinted area.

The effect of ribbon saving depends on the print speed. The reason for this is the up and down movement of the print head as well as the acceleration and slowing-down of the ribbon. Generally said: With a high print speed, less ribbon is saved as with a low print speed (see table below).

Cutting or dispensing applications can additionally deteriorate the effect of ribbon saving.

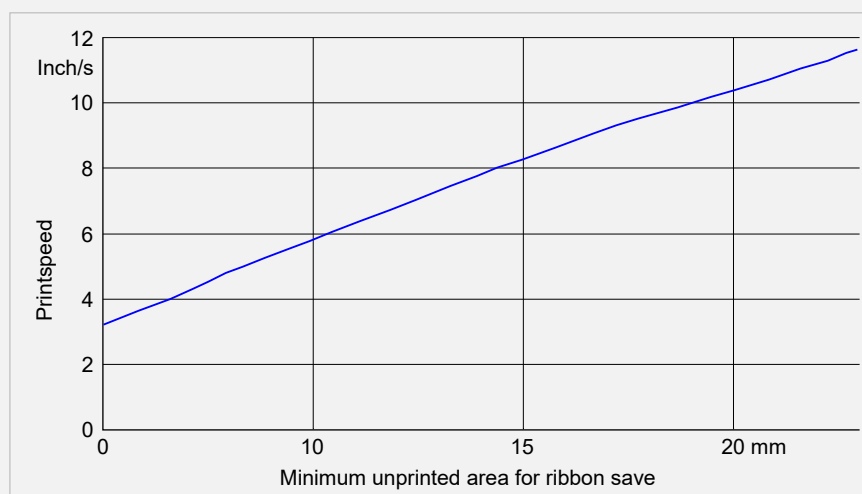
Activate the automatic ribbon saving:

- Print > Material > Ribbon > Ribbon autoecon. = "On".

Setting the *minimum distance* between two print areas from which on ribbon saving should be activated:

- Refer to parameter Print > Material > Ribbon > Ribb. eco. limit

! Mind the minimum length of unprinted area, see graph:



With or without clear label sensor

! The clear label sensor cannot be used on machines with installed RFID option.

The machine is available with or without an integrated label sensor for transparent labels (clear label sensor). The sensor is installed in addition to the standard transmission sensor and can be activated as required.

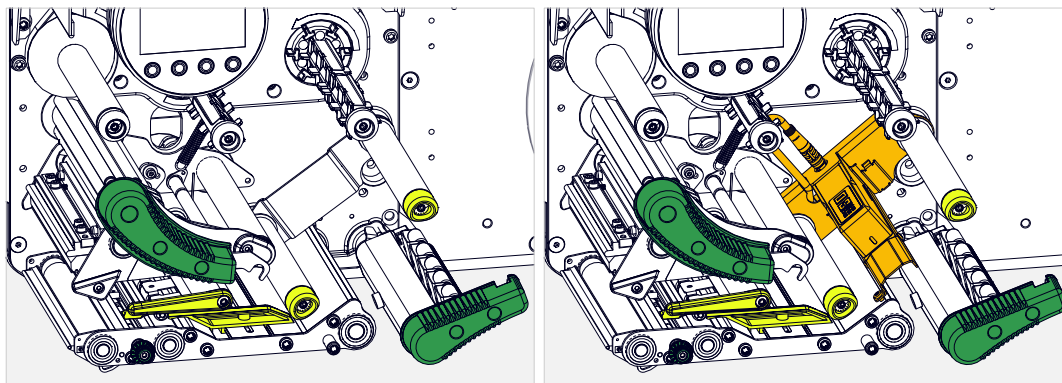


Fig. 7: Left: XPA 93x standard; Right: XPA 93x with clear label sensor.

The sensor detects transparent labels on transparent or non-transparent backing material. For more details, see chapter **Label Material** on page 23.

! Observe the following to achieve the best possible function of the sensor:

- Operate the machine with the optional Pro 300 unwinder (maintains the material tension in the sensor fork better).
- Use the end of material warning so that the end of the material is detected in good time before the material web becomes loose and the material tension in the sensor fork decreases.

With or without RFID

The XPA 93x is available with or without the option to process RFID labels. RFID labels have a transponder ("chip" + antenna) that can be written to by the machine via radio frequency. The data can also be read by the printer in the same way. Conventional printing of RFID labels is also possible.

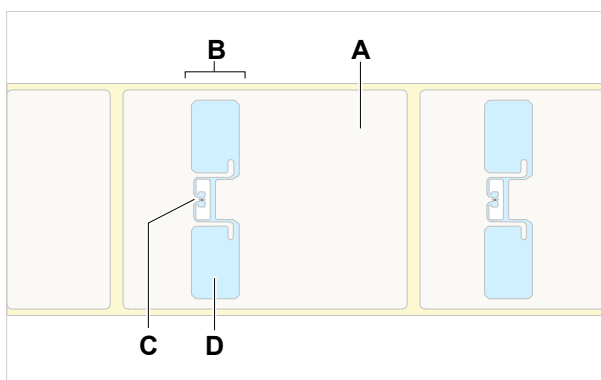


Fig. 8: RFID label schematic (A: Label, B: Transponder, C: Chip, D: Antenna)

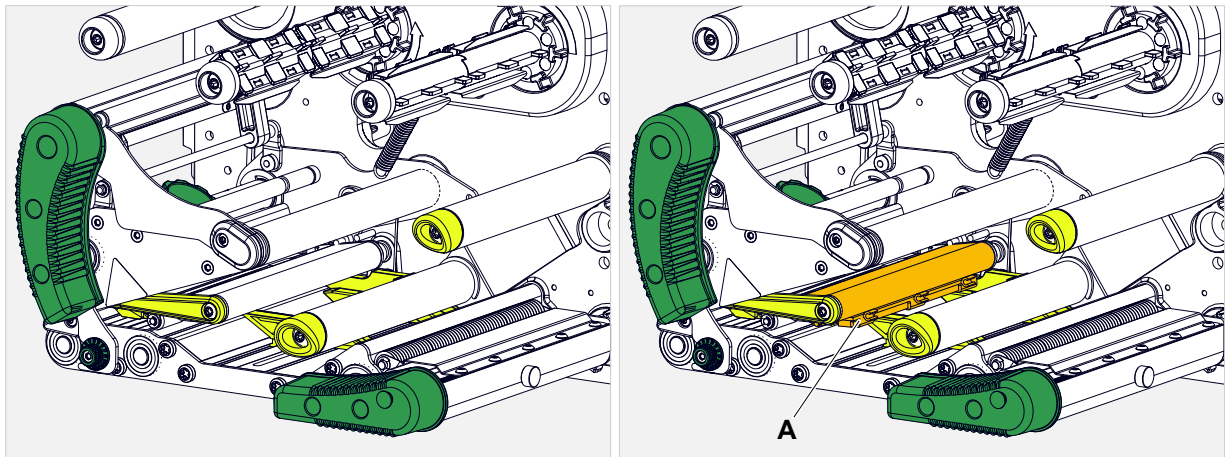


Fig. 9: Left: XPA 93x standard; Right: XPA 93x RFID (A: Antenna).

TECHNICAL DATA

Dimensions | Connection Data | Ambient Conditions

Dimensions

Machine	Measures (Height x Width x Depth)		Weight	
	With "Compact" unwinder	With "Pro 300" unwinder (mounted on top)	Machine	Pro 300 unwinder
XPA 934	620 ^[5] x 546 x 363 mm	638.5 x 546 x 363 ^[6] mm	19 kg	5 kg
XPA 935/936	--	638.5 x 546 x 428 ^[6] mm	28 kg	5 kg

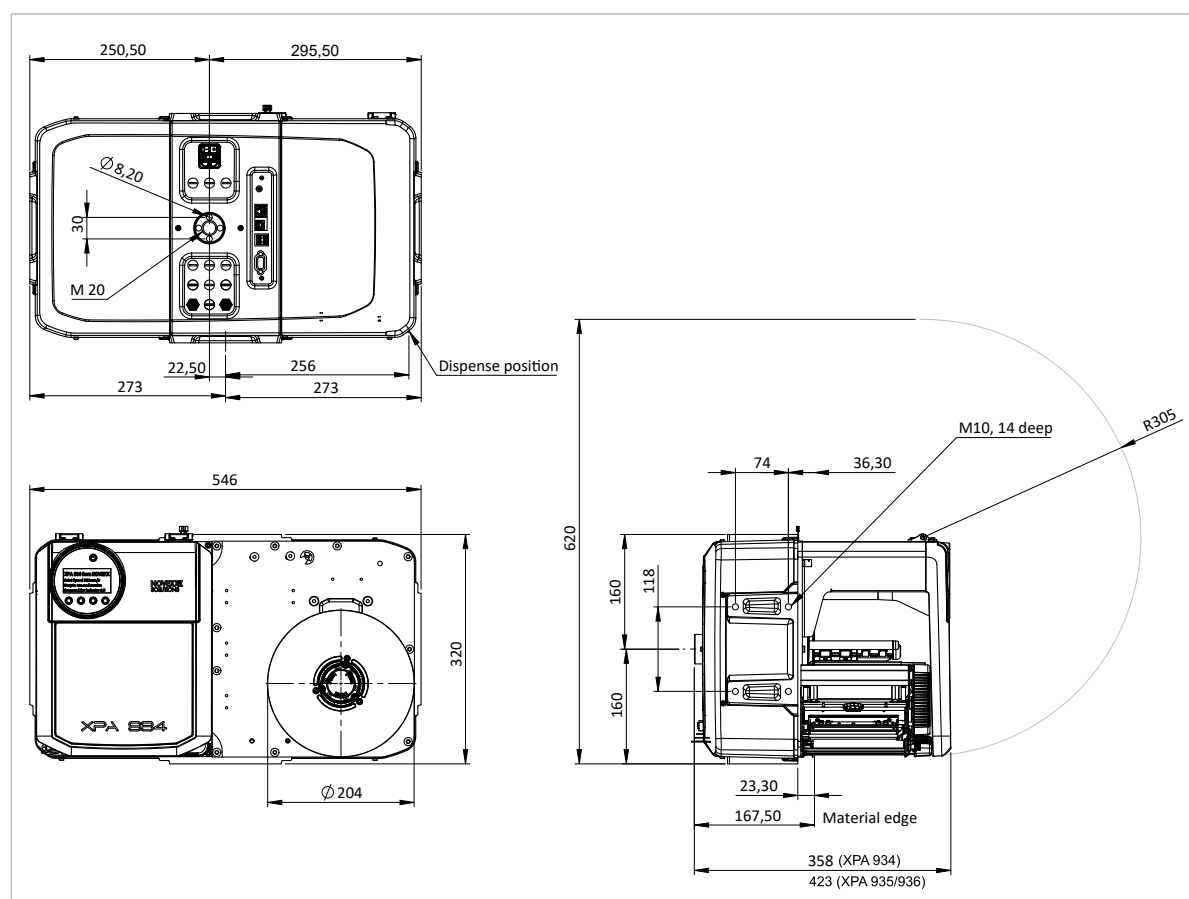


Fig. 10: Dimensions of the XPA 93x LH.

⁵ Height of the machine with opened front cover. With closed front cover, the height is 4 mm less.

⁶ With screw plug on the rear side.

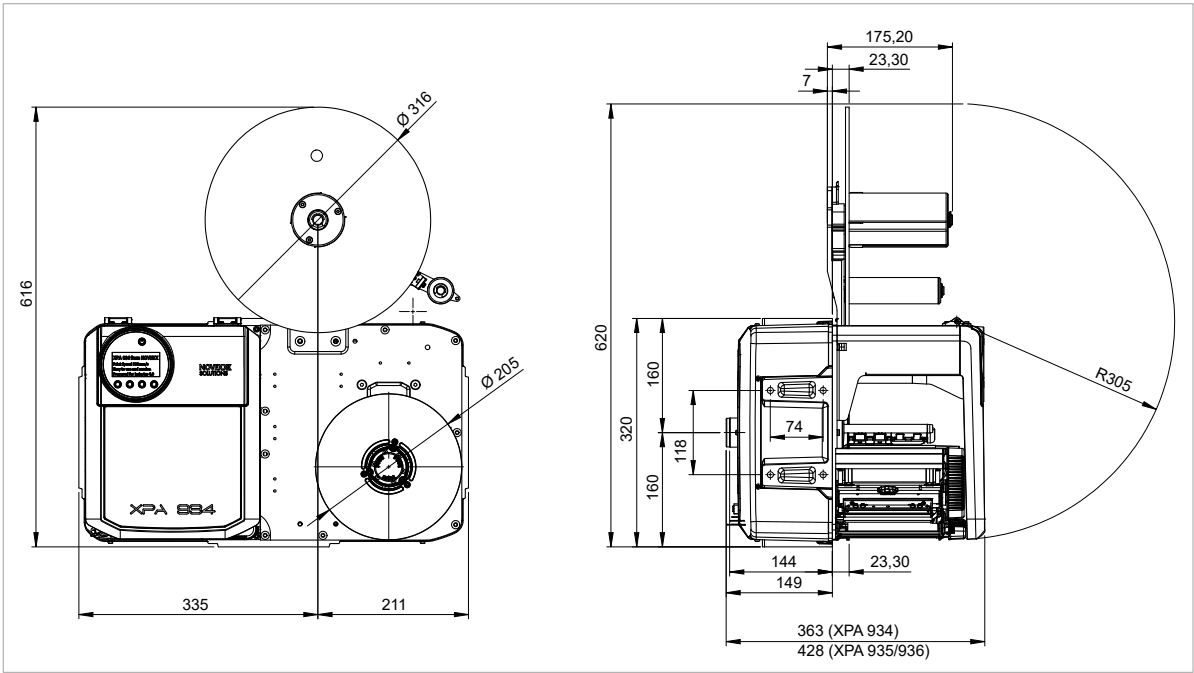


Fig. 11: Dimensions of the XPA 934 LH with compact unwinder.

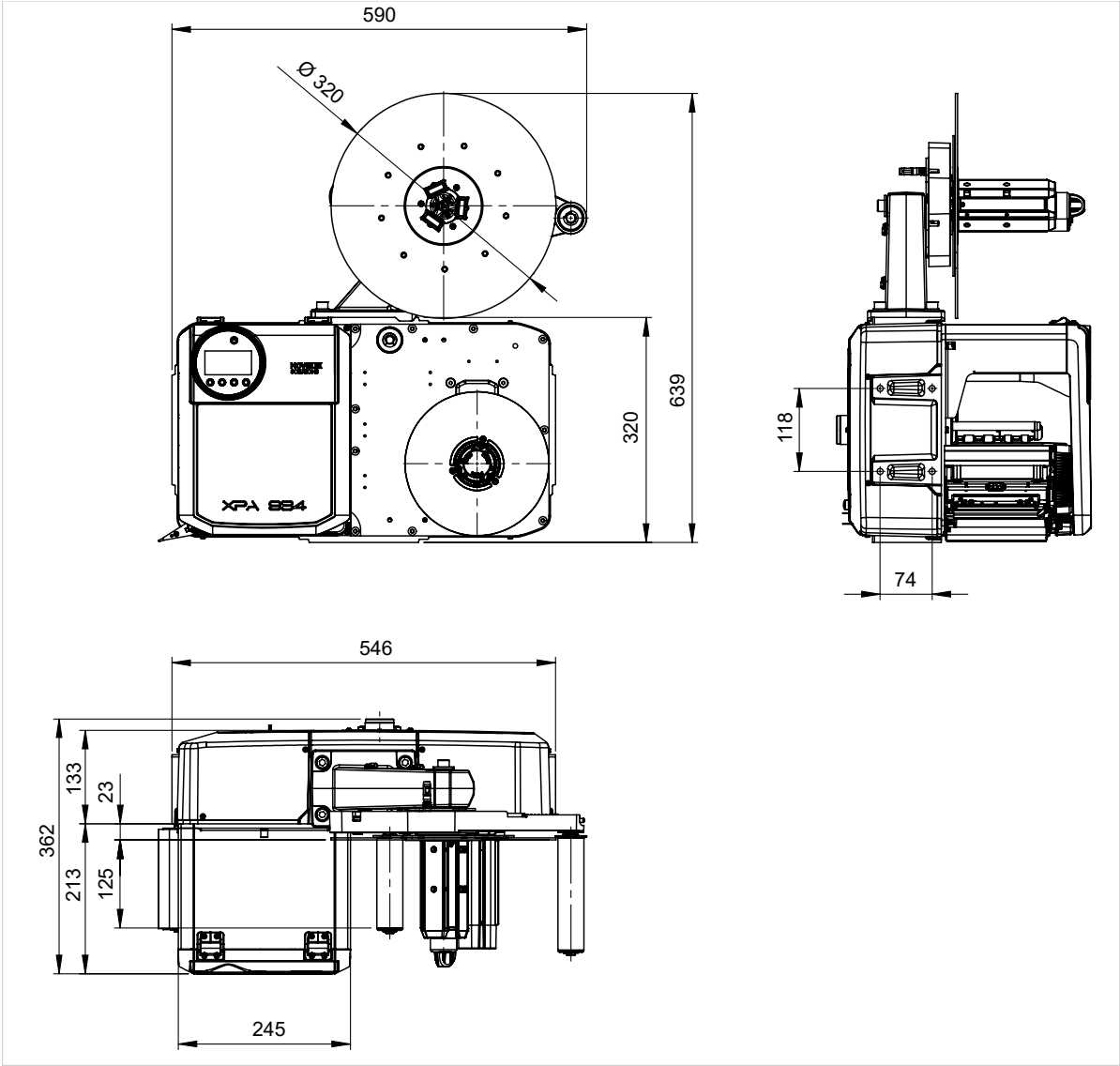


Fig. 12: Dimensions of the XPA 934 LH with Pro 300 unwinder.

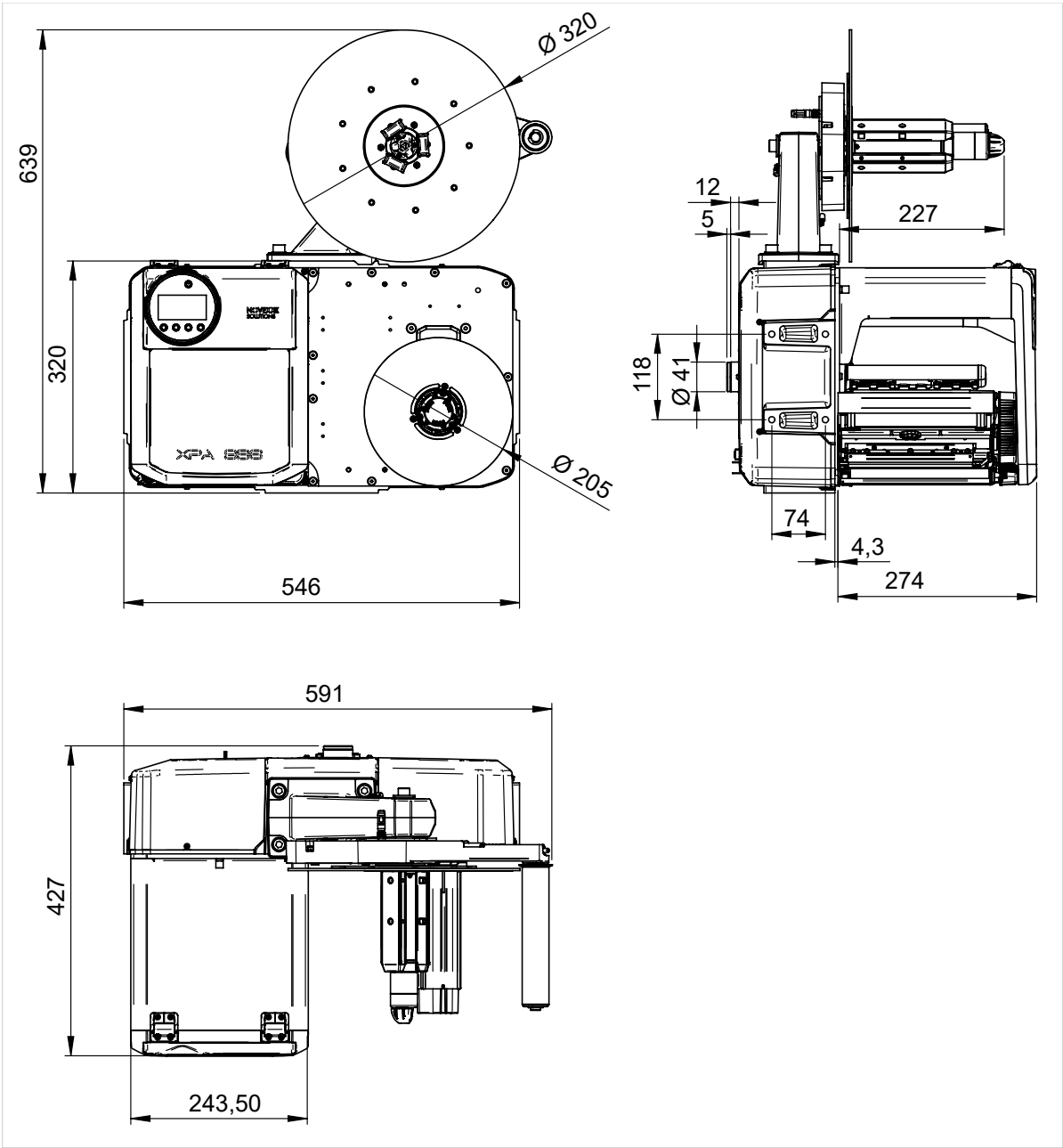


Fig. 13: Dimensions of the XPA 936 LH with Pro 300 unwinder.

Connection data

Protection category	I
Mains voltage	100 -240 V (AC)
Input current	5.0 - 2.5 A
Mains frequency	60 /50 Hz

Ambient conditions

Installation location	• Inside buildings • Protected from wind and spray water • Dry • Not in areas with potentially explosive atmosphere
Operating Temperature	+5 to +40°C
Storage Temperature	-20 to +70°C
Relative Humidity	20 to 85%, non-condensing
Protection category	IP 20/21 (depending on machine orientation)
Noise	< 72 dB(A)
Sea level	Operation to max. 2000 m above sea level Transportation to max. 8000 m above sea level

Label Material**Material types**

Self-adhesive, punched labels on backing material.

Thermal direct material, thermal transfer material, plastic ribbon: PE, PP, PVC, PA in rolls.

! The following material types are suitable for the XPA 93x with (optional) clear label sensor:

- *Transparent labels* on transparent or non-transparent backing material.
- *Metallized labels* (fully or partially): Whether the respective label layout is recognized must always be tested beforehand.
- *Shape* of the labels: The highest imprint accuracy is achieved with rectangular labels. The imprint accuracy is lower with non-rectangular labels (e.g. round labels). It must be tested before use whether the desired imprint accuracy is achieved.
- *Label gaps*: The labels must be separated from each other by gaps across the entire width of the material (no punches).

Material weight

60-160 g/m²

Material thickness

Label materials suitable for printing with a standard XPA 93x are generally not so thick that this would be a limiting factor.

! XPA 93x with (optional) clear label sensor: max. 0.3 mm

Material measures

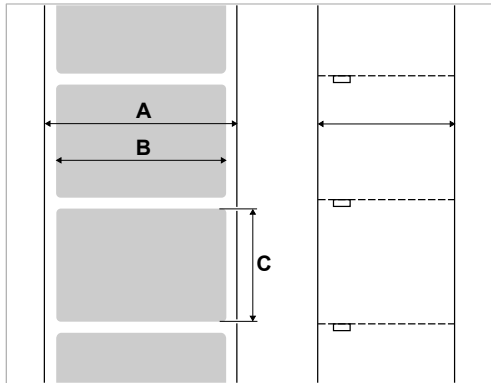


Fig. 14: Material measures (A Material width, B Label width, C Label length)

Machine	Material width	Label length
XPA 934	20 - 120 mm	10 - 1000 mm
XPA 935	20 - 185 mm	
XPA 936		

Table 2: Label measures.

Label roll

Unwinder:	Compact	Pro 300
Max outer-Ø	300 mm	300 mm
Inner-Ø	76.2 mm (3")	38.1 / 76.2 / 101.6 mm (1.5 / 3 / 4")
Maximum admissible roll weight	12 kg	18 kg

Backing paper

Maximum admissible weight of the wound up backing paper: 5 kg

Punch measures

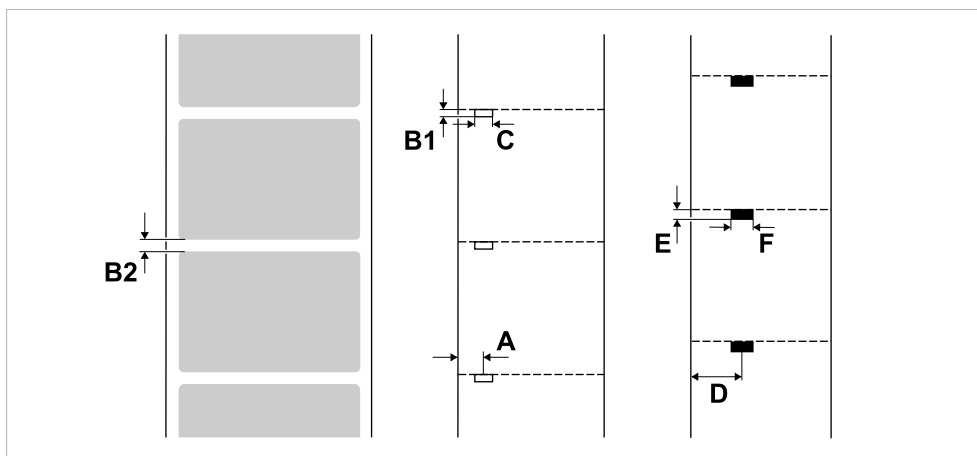


Fig. 15: Measures and positions of punches and reflex marks (**A**: Punch position, **B**: Punch length, **C**: Punch width, **D**: Reflex mark position, **E**: Reflex mark length, **F**: Reflex mark width).

	Length	Width	Position
Punch	0.8-14 mm (B1)	min. 4 mm (C)	XPA 934: 2-64 mm XPA 935/936: 2-96 mm
Gap	0.8-14 mm (B2) With clear label sensor: 2-14 mm	Label width	
Reflex mark	4 mm (E)	min. 12 mm (F)	

Table 3: Punch / Reflex mark measures

RFID labels

RFID labels must meet the same specifications as “normal” labels.

The transponders in the RFID tags must meet the following requirements:

- *Frequency range*: 860-930 MHz (UHF)
- *Transponder type*: EPC Class 1 Gen2

Thermal transfer ribbon

Ribbon type

Regarding thermotransfer ribbon, the following is recommended:

- the reverse side of the ribbon must have an antistatic, friction-reducing coating (backcoating).
- ribbons must be specified for corner edge type print heads.
- ribbons should be suitable for print speeds of up to 12 inch/sec. (300 mm/s).

Ribbon roll

Variable	Dimension
Outer Ø	max. 85 mm ^[7]
Core inside Ø	25.4 mm (1")
Width ^[8]	XPA 934: 25 -110 mm XPA 935: 30-132 mm XPA 936: 30-164 mm

Table 4: Dimensions of usable ribbon rolls.

Performance Data**Print head**

- *Print technology:* Thermal direct or thermal transfer printing

! For thermal direct printing, we recommend the optional high-endurance print head—for better print results and reduced wear and tear.

- *Print head type:* Corner Edge
- *Print head characteristics:*

Machine	Resolution (Dot/mm)	Resolution (dpi)	Print width(mm)
XPA 934	12.0	300	106
XPA 935			128
XPA 936			160

Print speed

Machine	Print speed (mm/s)	Print speed (inch/s)
XPA 934	75-300	3-12
XPA 935	75-250	3-10
XPA 936		

Impression accuracy

- In printing (y-) direction:

The impression accuracy depends on the print position. With the printout starting directly at the punch position, the accuracy is ± 0.5 mm. A distance between punch (that is label start) and print position will add $\pm 1\%$ of this distance to the accuracy fault (fig. below)

- X-direction: ± 0.5 mm

⁷ Corresponds to 600 m standard ribbon type NOVEXX 10287-600-140-10.

⁸ As a general rule, the thermal transfer ribbon must overlap the label being printed on both sides by 2 mm.

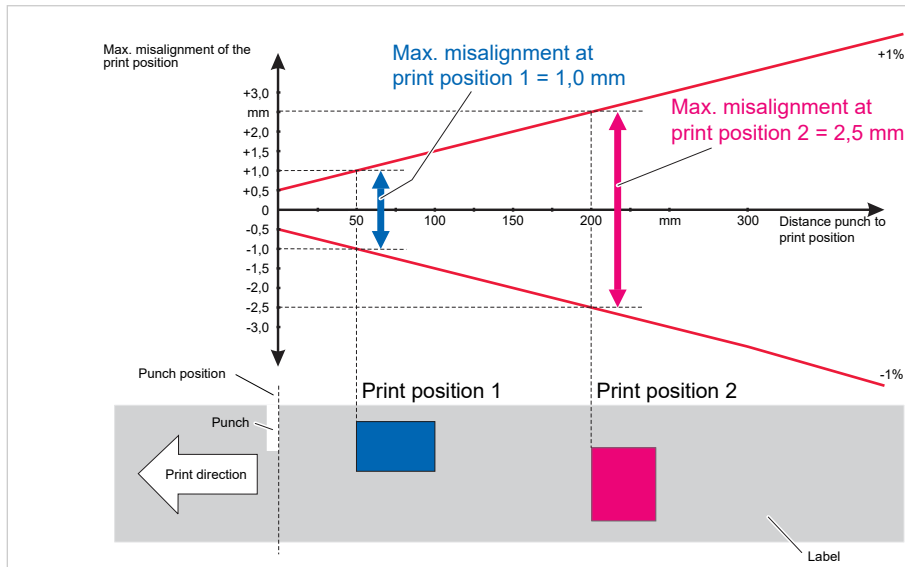


Fig. 16: Impression accuracy in printing direction, depending on the printing position.

Label sensor

- Standard: *Light-transmission* sensor for punched label material
- Option: *Combined sensor* with Light-transmission sensor for punched label material and reflex sensor for label material with reflex marks on the bottom side

! One of the two label sensors is activated in the parameter menu.

- Option: Clear label sensor

! Is fitted in addition to the standard transmission sensor and can be optionally activated in the parameter menu.

- Setting range:

– XPA 934: 2-64 mm

– XPA 935/936: 2-96 mm

Punch position and size see chapter “**Punch measures**” on page 25.

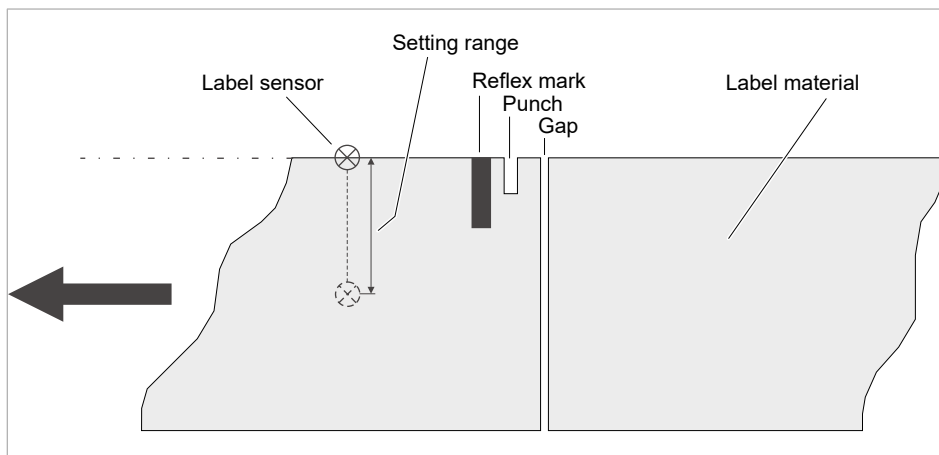


Fig. 17: Adjustment range of the label sensor.

Output modes

1:1 and 100% printable.

Non-printable areas:

- 1 mm from the front label edge (1st edge in feed direction)
- 1 mm from the left band border (right border in feed direction)

Interpreter

Easy Plug, Line Printer, Hex Dump, ZPL

Character sets

- 17 character sets with fixed size (fixedfonts) including OCR-A and OCR-B
- 3 Scalable character set (speedo fonts)
- TrueType character sets are supported (in Unicode as well)
- TrueType, speedo and fixed size fonts can be optionally stored on a memory card.

Character modification

- Scaling in X/Y direction
 - Fixfonts up to factor 16
 - Speedo fonts up to 6000 pt
- Rotation:
 - Resident fonts, bar codes, lines and graphics: 0, 90, 180, 270 degrees
 - Truetype fonts: 0 to 359.9 degrees

Bar codes

Codabar	Code 128 A, B, C
Code 128	Code 128 UPS
Code 128 Pharmacy	ITF
Code 2/5 Matrix	MSI
Code 2/5 Interleaved	EAN 8
Code 2/5 5-line	EAN 13 add-on 2
Code 2/5 Interleaved ratio 1:3	EAN 13 add-on 5
Code 2/5 Matrix ratio 1:2,5	EAN 128
Code 2/5 Matrix ratio 1:3	Postcode (guide and identity code)
Code 39	UPC A
Code 39 extended	UPC E
Code 39 ratio 2,5:1	Code 93
Code 39 ratio 3:1	

All bar codes scalable in 30 different width and in the height

2-dimensional bar codes

Aztec
Codablock F
Code 49
Data Matrix Code (code according to ECC200)
Maxi Code
PDF 417
QR Matrix Code

GS1 Databar & CC bar codes

Reduced Space Symbology (GS1 Databar) and Composite Component (CC) bar codes:

GS1 Databar-14	UPC-A + CC-A/CC-B
GS1 Databar-14 truncated	UPC-E + CC-A/CC-B
GS1 Databar-14 stacked	EAN 13 + CC-A/CC-B
GS1 Databar-14 stacked omnidirectional	EAN 8 + CC-A/CC-B
GS1 Databar limited	UCC/EAN 128 + CC-A/CC-B
GS1 Databar expanded	UCC/EAN 128 + CC-C

Interfaces & Electronics

Interfaces

- Data interfaces:
 - *Network*: Ethernet 10/100/1000
 - *USB host* (Typ A): USB 2.0, 2x
 - *USB device* (Typ B): USB 2.0
 - *Serial*: RS232, DSub 9
- Signal interfaces:
 - *Standard*: Connections for start sensor, signal beacon, roll diameter (OD) sensor
 - *Optional*: Connections for applicators, machine status signals

Electronics

Characteristic	Details
Processor	32-bit ARM Cortex-A9 CPU (NXP)
RAM	1 GB DDR3
eMMC	2 GB pSLC
Realtime clock	Standard
Operating panel	• 4 buttons • 1 button for standby mode • LC graphics display with 128x64 pixels • RGB illuminated background • rotatable

Certificates and Markings

All design models

CE, TÜV-Mark, cTÜV_{US}-Mark, FCC, EAC, CCC

The regulation EN 55032 demands for class A devices the following text to be printed in the manual:

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

(Only printers with RFID) Notices required by the FCC

“Changes or modifications not expressly approved by the manufacturer could void the user’s authority to operate the equipment.”

“This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.”

FCC Interference Statement (Part 15.105 (b)):

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- ▶ Reorient or relocate the receiving antenna.
- ▶ Increase the separation between the equipment and receiver.
- ▶ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- ▶ Consult the dealer or an experienced radio/TV technician for help.

(Only printers with RFID) Information required under IC

“This device complies with *Industry Canada* licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.”

FUNCTIONALITY

The main function of the XPA 93x is printing, dispensing and applying self-adhesive labels. The printing is done using the thermal or thermal transfer process. „Dispensing“ means completely or partially separating the label from the backing paper. The backing paper is afterwards wound up by the machine. Applying the label is done directly after the dispensing edge by means of a pressure roller, or by means of an applicator.

The process of printing and dispensing in detail:

1. A print job is transferred to the printer (via database interface or from an external memory medium). Afterwards, the machine is ready to print.
2. The machine prints and dispenses a label as soon as a start signal arrives (coming e. g. from an external product sensor at a conveyor). In „direct dispensing“ mode, the label is attached directly off the dispensing edge onto the product by means of a pressure roller.
3. In applicator mode, the XPA 93x is equipped with an additional unit, the applicator, which takes over the label after dispensing and attaches it onto the product (fig. below).

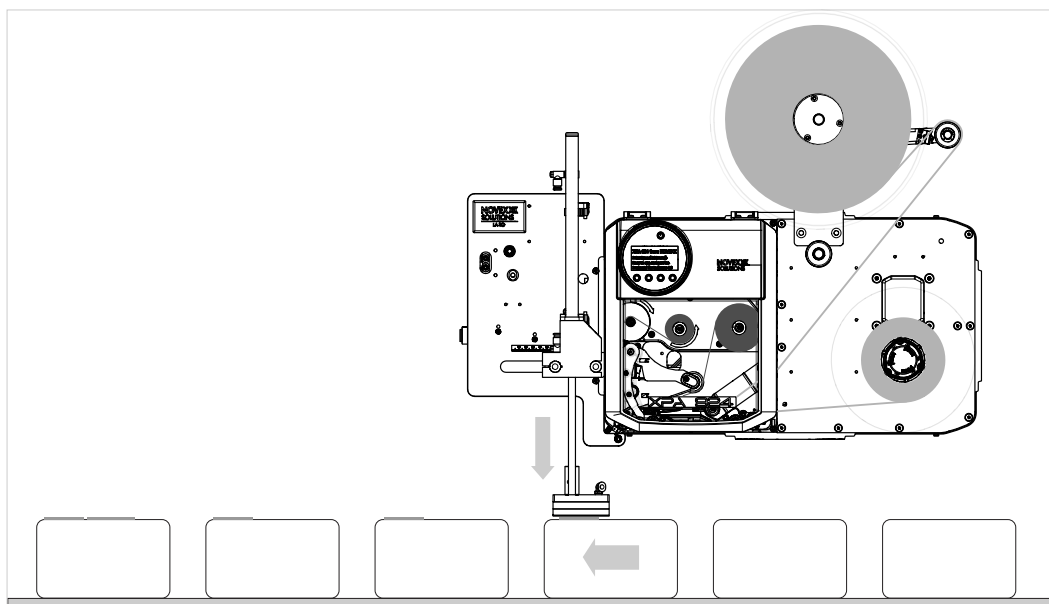


Fig. 18: XPA 93x in applicator mode with applicator LA-TO.

 [Example video of a XPA 93x with LA-TO.](#)

OPERATING COMPONENTS

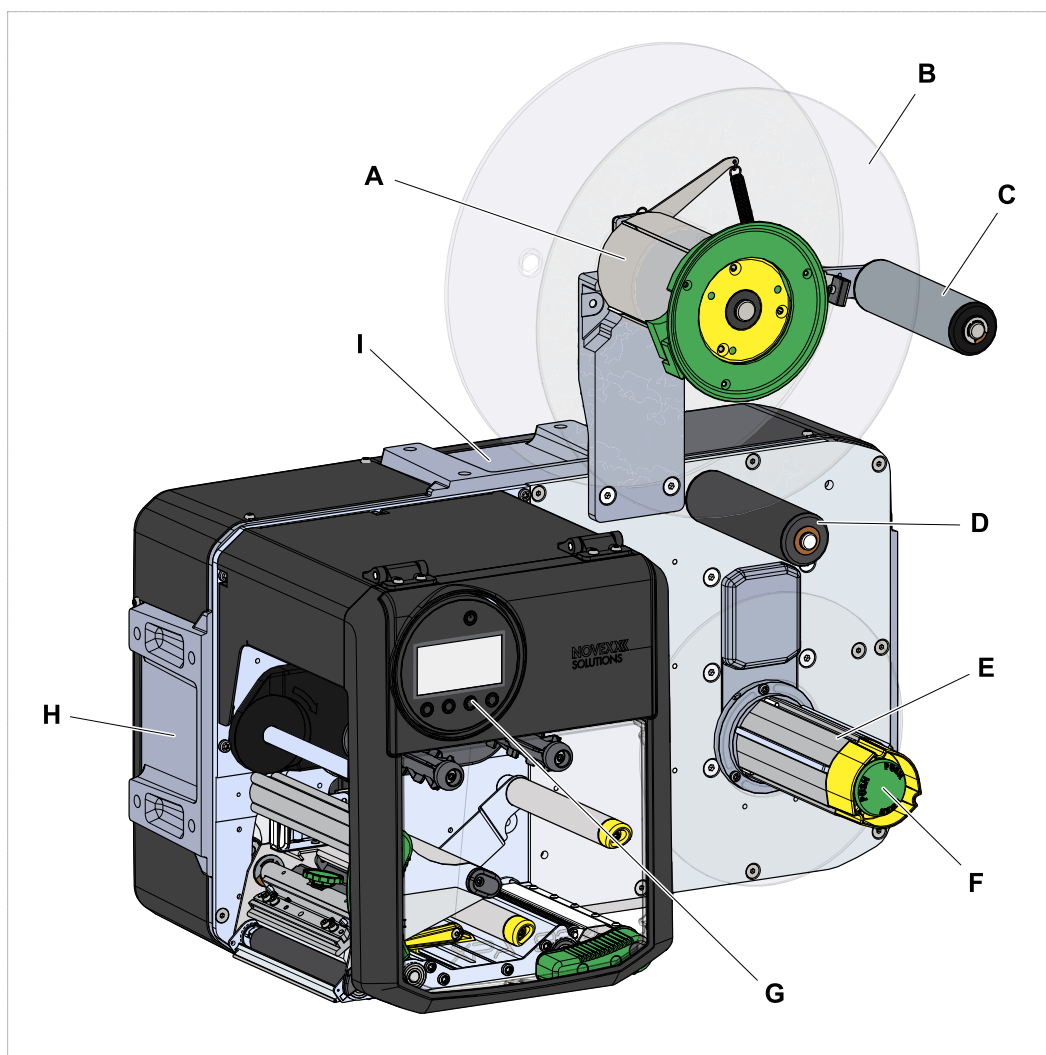


Fig. 19: Operating components of the XPA 93x LH.

A	<i>Label material unwinder</i> The unwinding mandrel receives the material roll
B	<i>Support disc (optional)</i> Prevents the material web from slipping sideways from the material roll (especially recommended for very narrow label material)
C	<i>Material web dancer lever</i> Holds the label material evenly under tension. Brakes the rotation of the material roll if the material tension drops.
D	<i>Deflection roller (optional)</i> Steers the material web in a new direction; only required for label material with the labels facing inside
E	<i>Backing paper rewinder</i> Rewinds the remaining backing paper

F	<i>Release button</i> By pressing the button, the winding core is relaxed and the wound carrier paper can be removed.
G	<i>Operation panel</i> Displays the operating status of the machine; for defining settings in the parameter menu
H	<i>Side flange</i> For mounting an applicator
I	<i>Top flange</i> For mounting the material unwinder "Pro 300"

Importance of the colours of machine parts:

Green	Operating component, which may be touched by the machine operator
Yellow	Parts that touch the label web
Black	Parts that touch the ribbon web

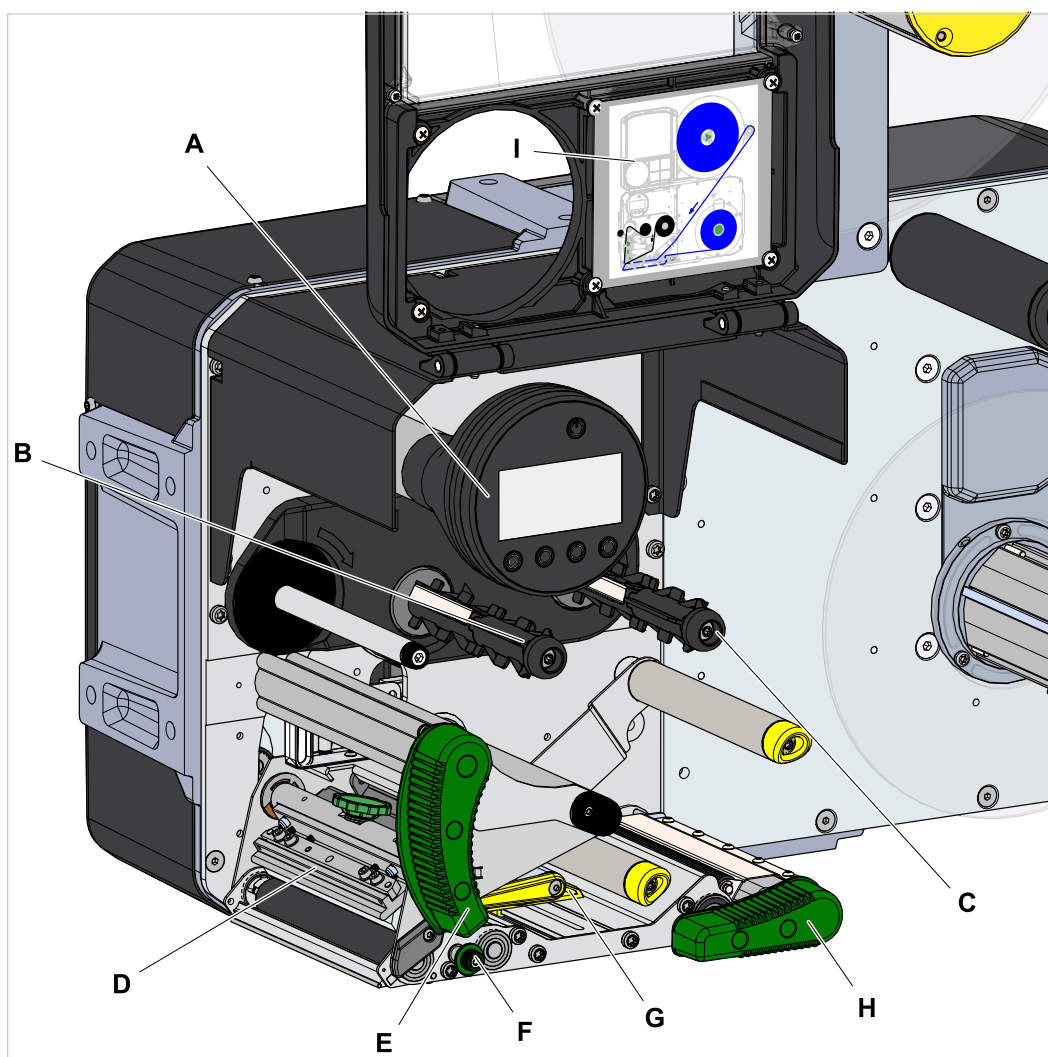


Fig. 20: Operating components of the print module of the XPA 93x LH.

A	<i>Operation panel</i> Displays the operating status of the machine; for defining settings in the parameter menu  Video "Display"
B	<i>Ribbon winding mandrel</i> Winds up the used ribbon
C	<i>Ribbon unwinding mandrel</i> Holds the ribbon roll
D	<i>Print head</i>
E	<i>Print head pressure lever</i> Must be open to load label stock and film; Must be closed to print
F	<i>Adjustment knob</i> for the label sensor
G	<i>Material guides</i> The front material guide must be adjusted to the material width; the material end light barrier is integrated in the rear material guide
H	<i>Pressure lever draw roller</i> Must be open to load label stock and film; Must be closed to print
I	Label/Ribbon insertion diagram

OPERATING PANEL

Operating Controls

The operation panel of the XPA 93x consists of a graphic display and four keys below the display. The current functions of the keys are displayed by icons (B) above the keys.

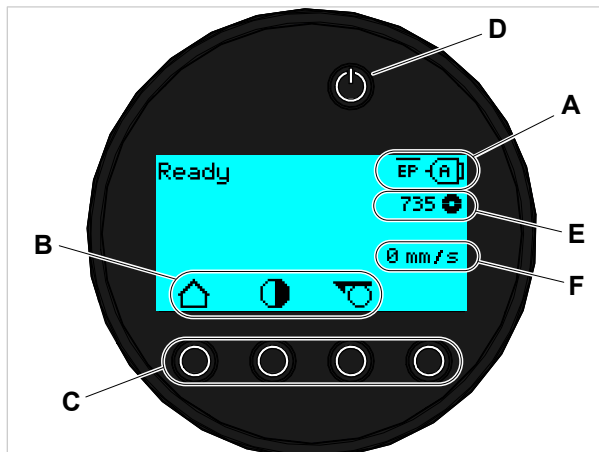


Fig. 21: Operation panel of the XPA 93x: **A** Icons that inform about the interface assignment, **B** Icons that show the key assignment, **C** Keys, **D** Standby key, **E** Remaining ribbon stock, **F** Conveyor belt speed display (with APSF function activated).

Operating Principle

The figure shows, how to toggle between the screens:

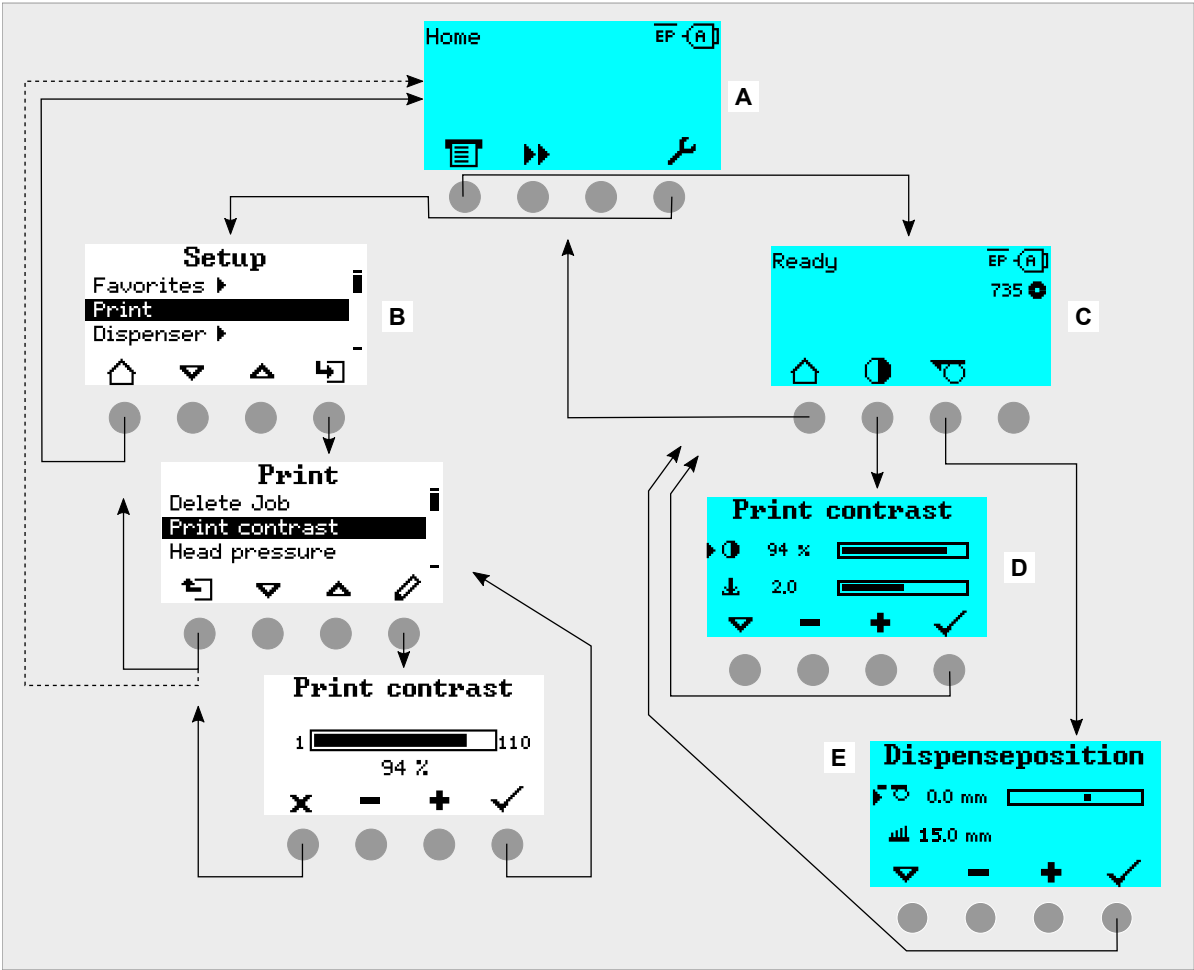


Fig. 22: How to toggle between the screens: **A** "Home" (cyan), **B** "Setup" (white), **C** "Ready" (cyan).

The displayed texts and icons are largely selfexplanatory. Based on the different background colors of the display, the state of the printer can be identified quickly:

Color	State	
Green	Printing	Normal operation, labels are being printed and applied
	Waiting for a start signal	• A print job has been transferred and interpreted or • The current print job was stopped In both cases, the machine is waiting for a start signal
Cyan	Home	Generally counts: Cyan => Need for action by the operator • The printer is <i>not</i> ready to receive print data • The interpreter has stopped • Error messages or warnings can <i>not</i> be displayed

Color	State	
	Stopped	• The current print job was stopped • The printer is ready to receive print data • The commands in the received print job are processed by the interpreter • Errors or warnings can be displayed
	Ready	• The printer is ready to receive print data • The commands in the received print job are processed by the interpreter • Errors or warnings can be displayed
White	Standalone	• Selection of a file on a storage medium • The printer works in the background, without updating the display • Selecting an input field and text input into the input field • Start printing; Errors caused by the print job are displayed
	Setup	• Settings in the parameter menu can be done • The printer is <i>not</i> ready to receive print data • The interpreter has stopped • Error messages or warnings can <i>not</i> be displayed
Red	Error	• An error occurred during the printing • The current print job is stopped • A status message is displayed with red background • The status message only disappears after pressing the acknowledgement key • The printer remains ready to receive print data if it was able to do so before the error occurred (exception: errors that prevent data communication) • The commands in the received print job are processed by the interpreter • Further errors can occur and, if so, are queued
Yellow	Warning	Same as “Error”, with the following differences: • The current print job is <i>not</i> stopped • The warning is displayed with yellow background • The warning disappears after some seconds

Table 5: Display colors and corresponding states

Icons

	<i>Home</i> : Toggle to the “Home” screen		<i>Start</i> : To start an operation, e. g. printing
	<i>Contrast</i> : Setting the print contrast during printing; Hidden, if only operator access rights exist		<i>Halt</i> : To stop an operation, e. g. printing
	<i>Printing</i> : Toggle to the „Ready“ screen	1	<i>Keys 1-4</i> : For typing in of key codes, the keys are numbered from left to right
	<i>Out</i> : Jump to the next higher menu level; Hold the button pressed: jump to the highest menu level	2	
	<i>In</i> : Opening a menu	3	
	<i>Applicator</i> : Triggers one stroke of the applicator, if present	4	
	<i>Acknowledgement</i> : Acknowledgement, e. g. of an input or an error message		<i>Cancel</i> : Leaving the dialog without applying the setting
	<i>Left/Right</i> : Move the marker in the text input dialog to the left or right		<i>Up/Down</i> : Move the selection bar upwards or downwards
			
	<i>Reprint</i> : Triggers the reprint of the preceding label, if the function is activated		<i>Up to first</i> : Moves the bar in the selection list to the first position
	<i>Delete</i> : Deletes the character left of the marker in the text input dialog		<i>Parameter</i> : Call parameter
	<i>Character selection</i> : Selecting a character in the text input dialog		<i>Feed</i> : Trigger material feeding
	<i>Start signal</i> : Input of a start signal by hand in single start mode		<i>Info</i> : Call a purely informative menu item
	<i>Setting</i> : Toggle to the „Setting“ screen		<i>Plus/Minus</i> : Increase/decrease a value in an input field
	<i>Right</i> : Move one input field further to the right (when typing in values that consist of several fields, e. g. time)		
			Setting of the <i>print head pressure</i>
	Jump to the <i>Dispense Settings</i> screen; Hidden, if only operator access rights exist		<i>Dispense position</i> : Quick access to parameter Dispenser > Dispenseposition
	<i>Start Offset</i> : Quick access to parameter Dispenser > Start Signal > Start offset		<i>Bar code</i> : appears for frequently occurring error messages; Press the key to call up the QR code that refers to the quick troubleshooting guide

Table 6: Those icons inform about the function of the key below the icon

	<i>Ethernet active</i> : The network interface is selected for data transfer and a connection could be established ^[9]		<i>Ethernet inactive</i> : The network interface is selected for data transfer and a connection could <i>not</i> be established
	<i>USB</i> : The USB interface is selected for data transfer ^[9]		<i>Auto interface</i> : The data interface is selected automatically ^[9]
	<i>Serial</i> : The serial interface is selected for data transfer ^[9]		<i>Caution</i> : Warning sign which marks error messages
	<i>Filter</i> : The filter function for file names is active (standalone mode)		<i>Ribbon stock</i> : Shows together with the number left of it the remaining ribbon length in meters.
	<i>Print interpreter</i> setting: Parameter Printer Language > Print Interpret. is set to “Easy-plug” ^[10]		<i>Print interpreter</i> setting: Parameter Printer Language > Print Interpret. is set to “Easy-Plug/ZPL Emu” ^[10]
	<i>Print interpreter</i> setting: Parameter Printer Language > Print Interpret. is set to “ZPL Emulation” ^[10]		<i>Print interpreter</i> setting: Parameter Printer Language > Print Interpret. is set to “Lineprinter” ^[10]
	<i>Print interpreter</i> setting: Parameter Printer Language > Print Interpret. is set to “Hex-dump” ^[10]		<i>USB thumb drive</i> : A USB thumb drive is connected and assigned to drive C:
	<i>XApp</i> : A XApp is active		

Table 7: Those icons inform about printer states

Key Combinations

Printer state	Key combination	Function
“Home” screen	1+3+4	Enter access code
	3+4	Measuring the label pitch automatically, see chapter Label pitch on page 103
	2+3	Slow material feed
	1+2	Eject material (backwards)
Always	1+2+3	Reset
	2+4	Standalone mode, see chapter “Standalone Operation” on page 115

Table 8: Special key combinations.

⁹ Icon flashes during print data transfer

¹⁰ Icon flashes during print interpreter activity.

WEB PANEL

Web panel - what's that?



Video "Web Interface".

The web panel is a comfortable external control panel, which can be operated on mobile or stationary computing devices. The web panel is supported by the following machines:

- Print & Apply Systems XPA 93x, XPA 94x, XDM 94x, XPM 94x
- Label printers XLP 60x, XLP 51x, XTP 60x

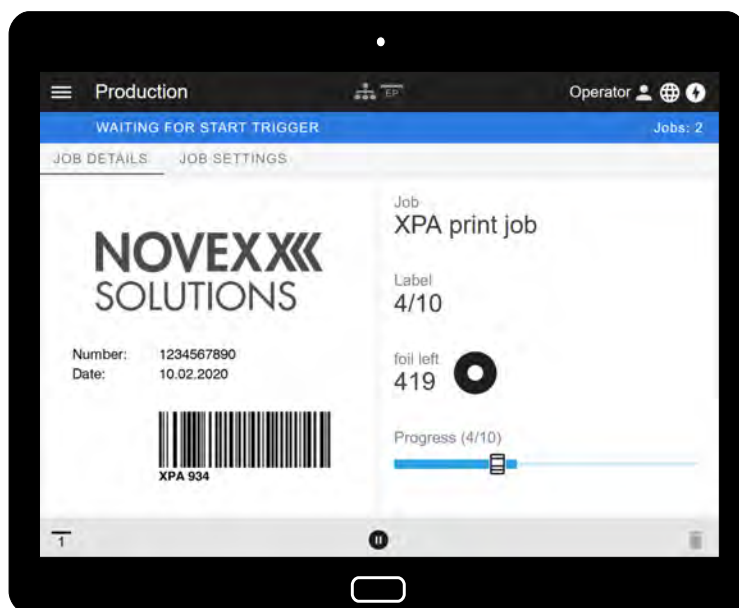


Fig. 23: Display of a print job in process with the web panel on a tablet computer.

Prerequisites

- Display device, e.g. smartphone, tablet computer, PC
- Web browser on the display device
- Connection to the same network to which the machine is connected
- Web server of the machine is activated: Interface > Network > Services > WEB server = "On"

Functions

- *Production monitoring*: Display of running print jobs (see figure above)
- *Machine settings*: Settings in the parameter menu
- *Administration*: Save machine settings; save support data; update firmware; etc.



Login: In order to use the functions of the web panel, the user must log in - with one of the roles Operator, Supervisor or Service. Depending on the role selected, more or less functions are accessible.

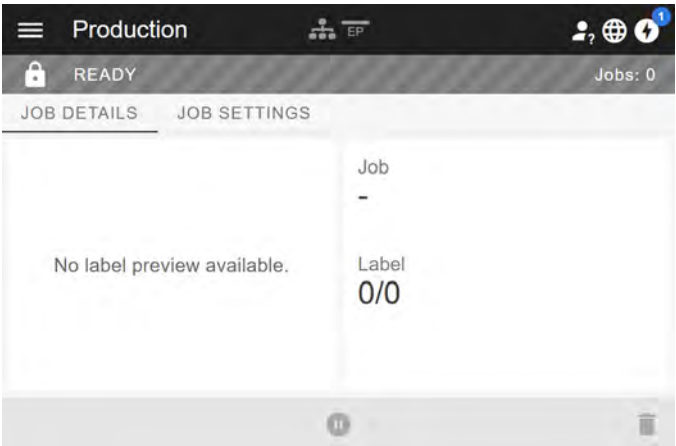
The same machine can be accessed from multiple web panels, and the web panels can have different language settings.

Starting the web panel

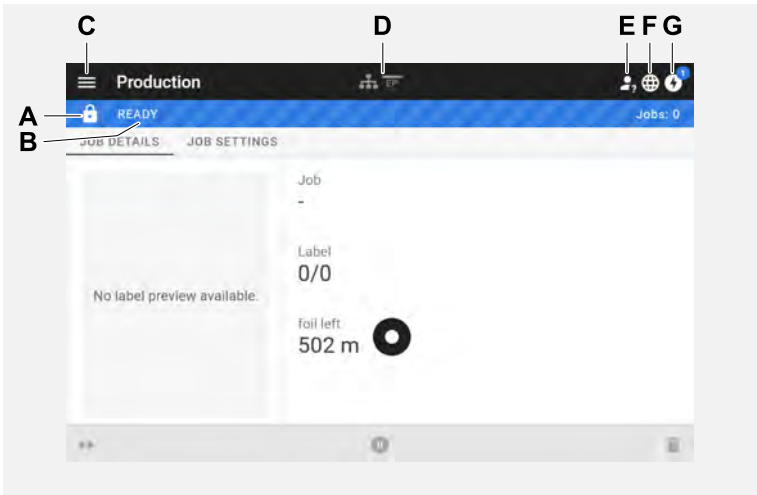
Procedure

1. Determine the IP address of the machine.

 The IP address is displayed on the operation panel during machine startup. Alternatively, select the following parameter from the menu: Interface > Network > IP address.
2. Switch on the display device and open the web browser.
3. Enter the IP address in the URL input line of the web browser.
The following display appears:



Display after the start



Pos. no.	Function
A	<i>Lock symbol:</i> No one has logged in yet (pos. E), so most functions are locked. Only the print job details display (middle area of the window with light background) and the message display (pos. G) are accessible.

Pos. no.	Function
B	<i>Infotext</i>: Display of different operating states of the machine with different background colours • READY: Appears when the control panel on the machine displays "Ready". • USER AT MACHINE: Appears when the control panel on the machine displays "Home". At the same time the lock symbol (pos. A) appears and the web panel is locked. This prevents the machine from being started from the web panel while someone is working on the machine (safety function). • ERROR: An unconfirmed error message is present. • WAITING FOR START TRIGGER: The machine is waiting for a start signal . • PRINTING...: The machine is printing
C	<i>Menu</i>: Choose here between the views "Production", "Machine settings" and "Administration". More details are given in the following chapters.
D	<i>Icons</i> that inform about the status of the machine, for more details see link to chapter "Icons" below. The figure above shows, for example, the icons for network connection and Easy Plug emulation.
E	<i>Login</i>: In order to use the functions of the web panel, the user must log in - with one of the roles Operator, Supervisor or Service. Depending on the role selected, more or less functions are accessible.  Preset key code for the role Operator: 1-1-3-2
F	<i>Language selection</i>: The language set on the machine is preset. By clicking on the icon, another language can be selected for the web panel.
G	<i>Notifications</i>: Display notifications, such as error messages and warnings. See the following chapters for more details.

Related reference

Icons on page 39

“Notifications” view

On the web panel 3 types of notifications are displayed: Error messages, warnings and information.

Error messages

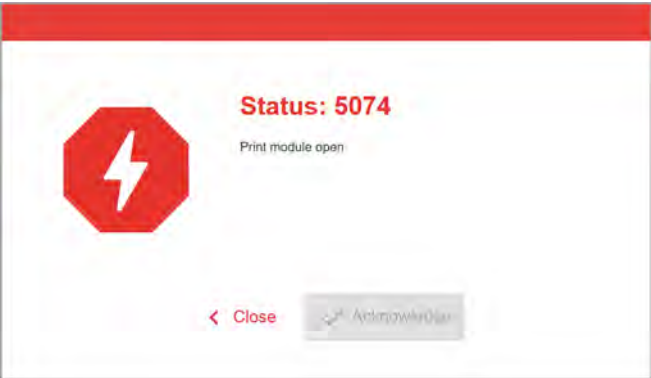


Fig. 24: Error messages that require a reaction from the operator are displayed in full. Status number and status text match the display on the machine operating panel. The message can be confirmed either on the web panel or the machine operating panel.

The Notification View

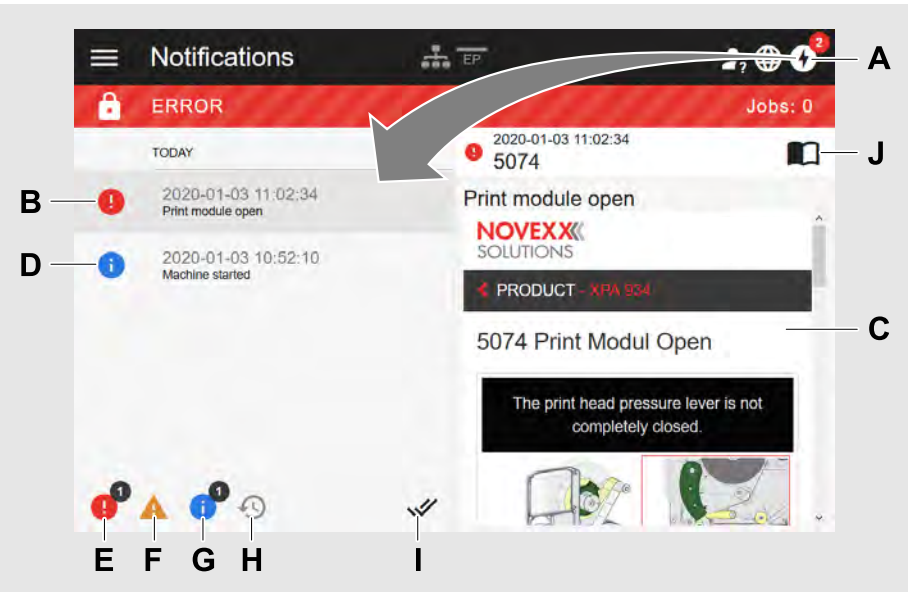


Fig. 25: After clicking on the notification icon (A), the notification view opens. The left half shows the notification history, the right half shows an explanation of the selected entry in the history.

Pos. no.	Function
A	<i>Notification icon:</i> Click on the icon to open the notification view. The superscript number indicates the number of unconfirmed notifications.

Pos. no.	Function
B	<i>Error message</i> in the history with timestamp. An explanation of the selected entry appears on the right. If there is a quick guide to correct the error message, it is displayed (C).
C	<i>Quick guide</i> to the error message, if available (Corresponds to the quick guide that can be accessed via a QR code from the machine operating panel)..
D	<i>Info message</i> in the history with time stamp.
E	<i>Filter for error messages</i> : Click on the icon to hide error messages from the list
F	<i>Filter for warnings</i> : Click on the icon to hide warnings from the list
G	<i>Filter for info messages</i> : Click on the icon to hide info messages from the list
H	<i>History</i> : Click on the icon to display the notification history. The history shows all notifications that have already been confirmed.
I	<i>Confirm everything</i> : Click on the icon to confirm all unconfirmed notifications. Confirmed notifications only appear in the history.
J	Manual symbol: Click on the icon to access the detailed user manual of the machine.

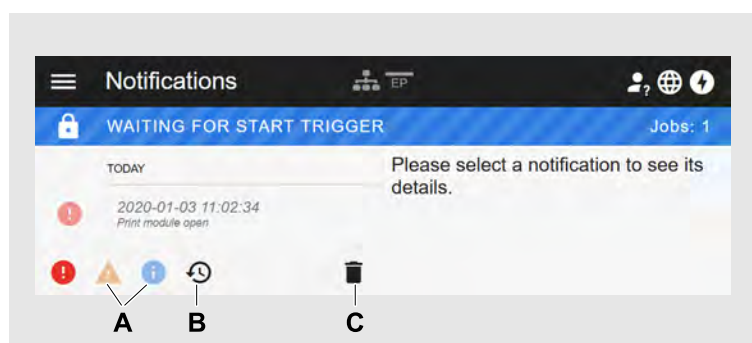


Fig. 26: Notification view with history.

Pos. no.	Function
A	The filters for warnings and info messages are set. The icons are displayed pale and all warnings and info messages are hidden.
B	History is displayed (symbol is black, otherwise grey).
C	Trashcan icon: Only appears when history is displayed. Clicking on the icon deletes the history.

Exiting the notification view:

- Click on “Notifications” in the header.

The web panel switches to the production view.

“Production” view

In the production view, the print job in progress can be monitored and settings can be made for the print job.

“Job details” view



Fig. 27: “Job details” view of a print job in the web panel.

Pos. no.	Function
A	Number of compiled print jobs
B	Name of the current print job (defined in the Easy Plug command #ER)
C	Label layout of the current print job
D	Progress display of the current print job (4 of 10 labels were printed)
E	Display of the remaining ribbon in meters
F	<i>Trashcan icon:</i> Click to delete the print job (requires at least supervisor role, in the figure the icon is grayed out, i.e. the function is not available with the current role)
G	<i>Stop or Start icon:</i> Click to stop or start the print job
H	<i>Start signal icon:</i> Click to print and dispense a label

“Job Settings” view

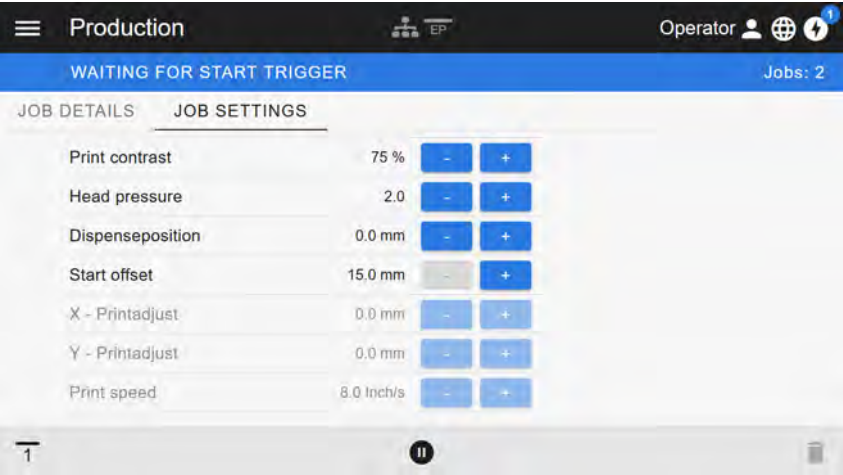


Fig. 28: View “Job Settings” of a print job in the web panel. Settings not accessible with the active role (here: “Operator”) are greyed out. The other settings can be changed by clicking on “+” or “-”.

“Machine settings” view

Main menu

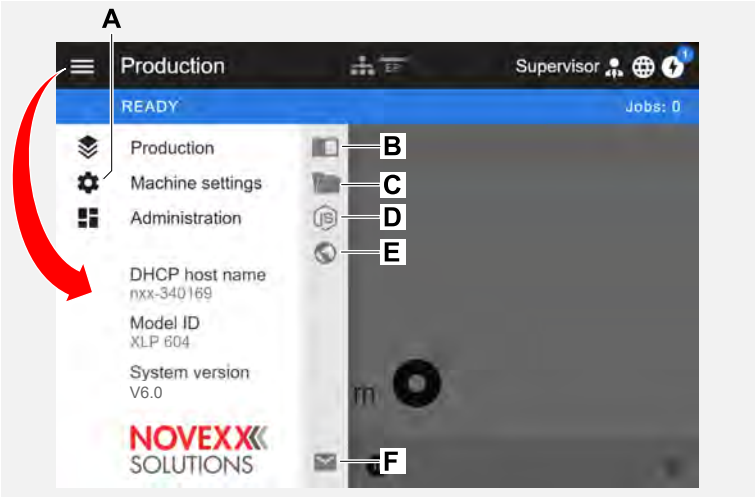


Fig. 29: View after clicking on the menu icon in the upper left corner.

Pos. no.	Function
A	Open machine settings (see following chapter)
B	Opens the user manual
C	 Opens the file manager
D	 Opens the documentation of the nxmi API interface

Pos. no.	Function
E	Opens the NOVEXX Solutions web page
F	Opens an e-mail to the NOVEXX Solutions service hotline

Machine settings

After clicking on “Machine settings”, the parameter menu familiar from the machine operating panel opens.

More or less parameters are displayed depending on the permissions given by the login role. As “Operator” only the parameters of the Info menu can be accessed.

In order to make machine settings, two conditions must be met:

- Login at least as Supervisor (key sequence 2-2-3-1-2-2)
 - The machine must be *stopped*, otherwise the window will appear “greyed out”
- To *stop*, click the button at the bottom centre of the window:

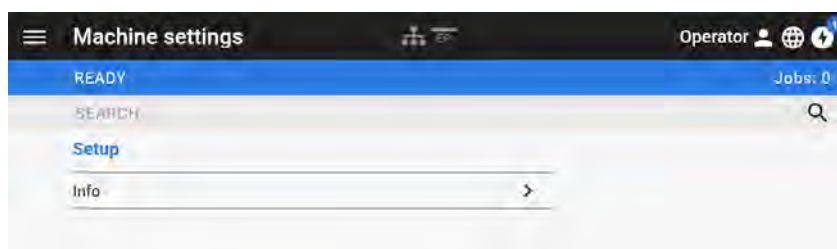
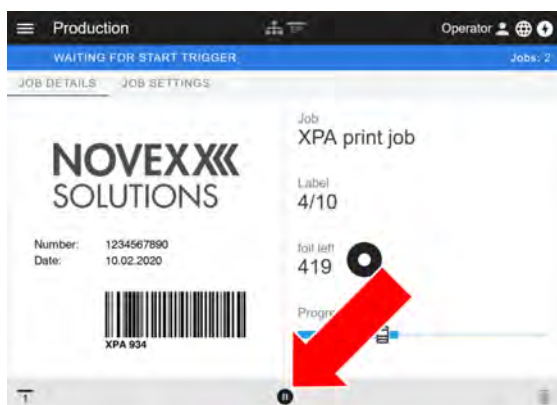


Fig. 30: Machine settings view with the operator role.



Fig. 31: Machine settings view with the supervisor role.

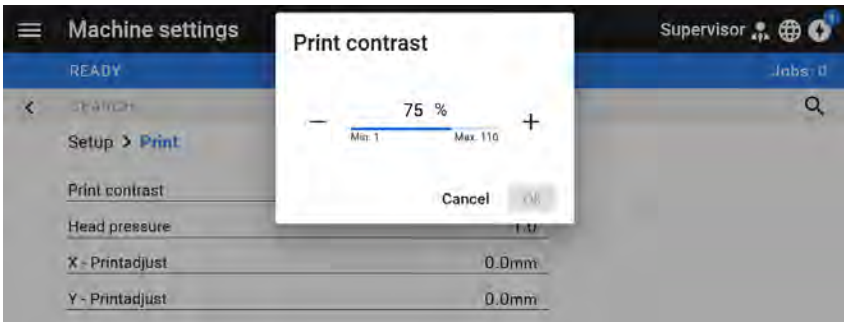


Fig. 32: Example: setting of Print > Print contrast.

! Search function:

If you do not know in which menu the parameter you are looking for can be found, but know at least part of the name, the search function will help you find it quickly:

- Enter the search term in the search field (A) - only parameters containing the search term will appear (B).

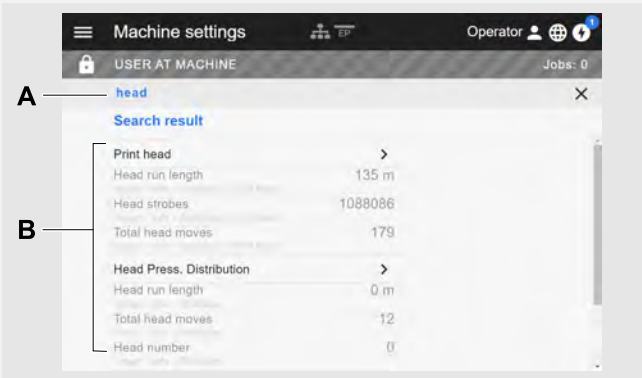


Fig. 33: After entering the search term “head” (A), only parameters containing “head” in the name are displayed (B).

“Administration” view



With the login roles “Supervisor” and “Service”, the “Verwaltung” view appears in the menu additionally. This view provides special functions for qualified and authorized personnel. For more information, refer to the service manual.

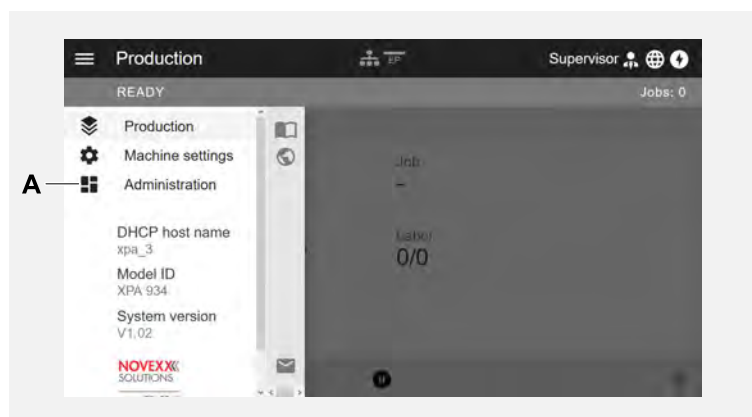


Fig. 34: After logging in as supervisor or service, the “Verwaltung” entry (A) appears in the menu.

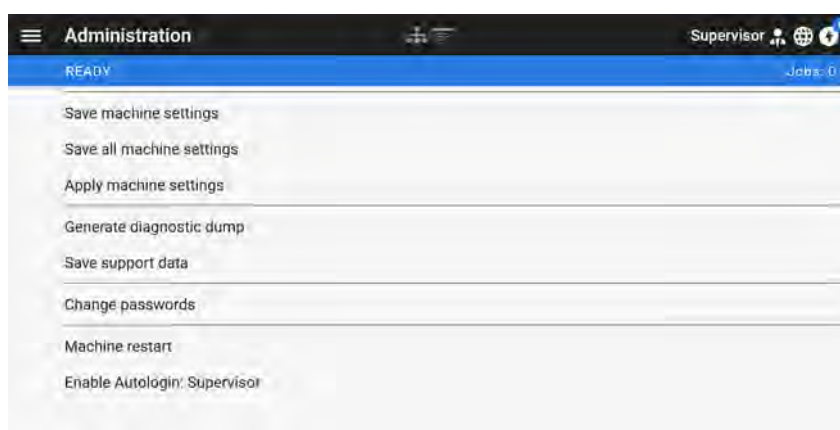


Fig. 35: Administration view (only with “Supervisor” or “Service” rights).

PARAMETER MENU

Overview parameter menu

The table below gives an overview of the structure of the parameter menu and the parameters it contains.

! Only the parameters printed in *red* are described here. The parameters printed in *black* are only relevant for service personnel and are therefore described in the Installation Manual and in the Service Manual.

► Click on the respective link (red text) in the table to get to the parameter description.

Favorites ^[11]	Print	Print (continued)
Parameter 1	Delete Job	L Ribbon
Parameter 2	Print contrast	Ribbon width
...	Head pressure	Ribbon Rew Tens.
Parameter n	X - Printadjust	Ribbon Unw Tens.
	Y - Printadjust	Color Side
	Print speed	Ribbon length
	Delete Spooler	Outer ribbon Ø
	Material	L Inner ribbon Ø
	Label	Ribbon autoecon. ^[12]
	Detect label length	Head down lead ^[13]
	Print method	Ribb. eco. limit ^[13]
	Head down lead ^[14]	L Feed mode
	Head up limit ^[14]	Format
	Material type	Bar code multip.
	Punch offset	UPC plain-copy
	Material length	EAN Readline
	Material width	EAN sep. lines
	Label sens. type	Rotated barcodes
	Punch mode	L Print direction
	Punch level ^[15]	Feed speed
	L Mat. end detect.	(Backfeed speed)

¹¹ Parameter selection defined by the operator, see chapter **Definition of Favorites** on page 64.

¹² Only with installed ribbon saving option

¹³ Only with Print > Material > Ribbon > Ribbon autoecon. = "On"

¹⁴ Only with Print > Material > Label > Print method = "Thermal/headlift"

¹⁵ Only with Print > Material > Label > Punch mode = "Manual"

Favorites ^[11]	Print	Print (continued)
		Voltage offset

Table 9: Parameter menu part 1 (parameters in brackets are only visible with “service mode” access rights)

¹¹ Parameter selection defined by the operator, see chapter **Definition of Favorites** on page 64.

Dispenser	Options	System
Dispense Mode	Selection	Access authoriz.
Real 1:1	└ Periph. device	Speed unit
└ Dispensing mode	 At this point appear the sub-menus with parameters for options if options are built into the machine. For details refer to the installation manual or to the service manual.	(Operator password)
└ Max InitFeedback		(Supervisor password)
Speed		(Service password)
└ Print speed		Factory settings
└ Feed speed		Custom defaults
Start Signal		Setup Wizards
└ Start offset		(Run Setup Wizard?)
└ Start print mode		Turn-on mode
└ Application mode	Label Sensor	(TD wrong head error)
└ Start error stop	└ Sensor type	(Spooler size)
└ Product length	└ Clear label sensor	Hardware Setup
└ Multi label mode	└ Sensor teaching	└ (Printer type)
└ Label 2 offset ^[16]	└ APSF label sensor ^[17]	└ Time zone
└ Label 3 offset ^[18]	└ Head-sensor dist	└ Realtime Clock
Dispenseposition	└ Label start detection	└ Head-sensor dist
Dispensing edge	└ Sensor teaching	Print Control
Head disp dist. ^[19]	Keyboard	└ Miss. label tol.
Display mode		└ Fast startup
Dispense counter		└ Gap detect. mode
Disp. Cnt. Reset		└ Max InitFeedback
Rewinder Tension		└ Ribb. stretching
		└ Singlestartquant
		└ Reprint function
		└ Ribbon end warn.
		└ Ribbon warn stop
		└ Error reprint
		└ Single-job mode
		└ Temp. reduction
		└ Print info mode

Table 10: Parameter menu part 2 (parameters in brackets are only visible with "service mode" access rights)

¹⁶ Only with Dispenser > Start Signal > Multi label mode = "labels/start"¹⁷ Only with installed APSF board.¹⁸ Only with Dispenser > Start Signal > Multi label mode = "labels/start" with x=3¹⁹ Only with Dispenser > Dispensing edge = "User defined"

Printer Language		Printer Language (cont.)		Interface	
Print Interpret.		L	Commands	Print interface	
EasyPlug Setting			└ Format préfixe	Network	
└	Character filter		└ Contrôle préfixe	└	IP Addressassign
└	Character sets		└ Délimiteur	└	IP address
└	EasyPlug errors		└ Commande ^PR	└	Net mask
└	EasyPlug warning		└ Commande ^MT	└	Gateway address
└	Spooler mode		└ Commande ^JM	└	Port address
└	StandAlone Input	L	Commande ^MD/~SD	└	DHCP host name
└	#VW/I Interface	PDF Setting ^[20]		L	Services
└	Printer ID no.	└	PDF print quantity	└	WEB server
└	Command sequence	└	Scale to Label	└	FTP server
└	(Ignore #IM cmd.)	└	Manual scaling ^[21]	└	Wi-Fi
└	(Ignore print setting cmds.)	└	Blck./white threshold PDF obj.	└	(MQTT broker)
L	(Ignore immediate cmds.)	└	Blck./white threshold graphic	└	(MQTT broker IP) ^[22]
ZPL Setting ^[23]		└	Rotate 90°	└	Time client
└	Manual Calibrate	└	Print direction	└	Time server IP ^[24]
└	Darkness	└	EasyPlug imm. support	└	Time zone ^[25]
└	Label Top	└	EasyPlug imm. interface ^[26]	L	Sync. interval ^[25]
└	Left Position	L	EasyPlug imm. port ^{[26] [27]}	Serial Port 1	
└	Error Indication			└	Baud rate
└	Error Checking			└	No. of data bits
└	Resolution			└	Parity
└	305 DPI Scaling			└	Stop bits
└	Image Save Path			└	Data synch.
└	Label Invert			L	Frame error

Table 11: Parameter menu part 3 (parameters in brackets are only visible with "service mode" access rights)

²⁰ Only with Printer Language > Print Interpret. = "PDF Direct"²¹ Only with Printer Language > PDF Setting > Scale to Label = "No"²² Only with Interface > Network > Services > MQTT broker = "External server"²³ Only with Printer Language > Print Interpret. = "ZPL Emulation"²⁴ Only with Interface > Network > Services > Time client = "Time server IP"²⁵ Only with Interface > Network > Services > Time client = "Automatic" or "Time server IP"²⁶ Only with Printer Language > PDF Setting > EasyPlug imm. support = "Yes"²⁷ Only with Printer Language > PDF Setting > EasyPlug imm. interface = "TCP/IP SOCKET"

Interface (continued)			Tools		Tools (continued)	
Drives			Diagnostic		Internal Flash	
└	Drive C		└	(User modified) ^[28]	└	Copy From USB ^[29]
└	Drive D			└ Parameter 1	└	Delete Dir
└	Drive E			└ ...		
Home mode				└ Parameter n		
			└	Store Parameters		
			└	Gen.Support Data		
			└	EasyPI. file log ^[30]		
			└	Log files delete ^[30]		
			└	EasyPlug Monitor		
			└	EP Monitor Mode		
			Test			
			└	Sensor test		
			└	Print test		
			(Service)			
			└	(Service done)		
			└	(Head exchange)		
			└	(Roller exchange)		
			└	(Serv. data reset)		
			(Adjustment)			
			└	(Sensor Adjust)		
			└	(Matend tolerance)		
			└	(Feedadjust label)		
			└	(Feed adjust)		
			└	(Forw feed rat.)		
			└	(Backw feed rat.)		
			└	(Punch y calibr.)		
			└	(Head idle adjust)		

Table 12: Parameter menu part 4 (parameters in brackets are only visible with "service mode" access rights)

²⁸ Parameters, whose settings differ from the factory setting.

²⁹ If at least one external flash memory is plugged into one of the USB interfaces.

³⁰ Only with Interface > Drives > Drive C ≠ "None"

Info			Info (continued)			Info (continued)		
Model ID			L	Total Operation				Max. Labellength
Status Printouts			System				L	Custom defaults
	Printer Status		L	Machine Data		L	CPU board data	
	Memory Status				Serial number			CPU identifier
	Font Status				Product code			FPGA version
	Service Status				Company name			EMMC Name
	Dottest endless			L	Production date			U-Boot Version
	Dottest punched		L	Module FW. Vers.				Module name
L	Reference label				System version			MAC Address
Statistics					System revision			Module part numb.
L	Print head				System date			PCB part number
		Head run length			Operator panel			Serial number
		Head strobes			Ribbon unwinder			Production date
		Total head moves			Ribbon rewinder			Electronics
		Operation time			TPH power		L	Module type
		Contrast distribution			BasicIO	L	Operator panel	
		Head pressure distribution			8IO 1 ^[31]		L	Serial number
		Thermal distribution			8IO 2 ^[32]	L	Ribbon unwinder	
	L	Print speed distribution			Material rewind			Module name
	Head run length			L	Material pull			Module part numb.
	Roll run length		L	Memory Data				Serial number
	Total head moves				RAM memory size			Production date
	Service operations				Space for RAM disc			Electronics
	Head number				Storage media			CAN MAC address
	Roll number				Internal Flash		L	Module type
	Tot. mat. length				USB1 ^[33]			
	Tot. ribb. length				USB2 ^[34]			
	Head strobes				Spooler size			
	Operation time				Space for Jobs			

Table 13: Parameter menu part 5 (parameters in brackets are only visible with "service mode" access rights)

³¹ Only with installed 8IO board.³² Only with installed second 8IO board.³³ If at least one external flash memory is plugged into one of the USB interfaces.³⁴ If a second external flash memory is plugged into the second USB interface.

Info (continued)		Info (continued)		Info (continued)	
L	Ribbon rewinder		└	Production date	L Power supply
	└ Module name		└	Electronics	└ Module name
	└ Module part numb.		└	CAN MAC address	└ Module part numb.
	└ Serial number		L	Module type	└ Serial number
	└ Production date	L	8IO 1 ^[35]		└ Production date
	└ Electronics		└	Module name	└ Module type
	└ CAN MAC address		└	Module part numb.	L Version
	L Module type		└	Serial number	L APSF ^[36]
L	Material rewind		└	Production date	└ Module name
	└ Module name		└	Electronics	└ Modulepartnumb.
	└ Module part numb.		└	CAN MAC address	└ Electronics
	└ Serial number		L	Module type	L Module type
	└ Production date	L	8IO 2 ^[37]		L Print head
	└ Electronics		└	Module name	└ Module name
	└ CAN MAC address		└	Module part numb.	└ Module part numb.
	L Module type		└	Serial number	└ Serial number
L	TPH power		└	Production date	└ Production date
	└ Module name		└	Electronics	└ Module type
	└ Module part numb.		└	CAN MAC address	└ Resolution
	└ Serial number		L	Module type	└ Width
	└ Production date	L	Material pull		L Resistance
	└ Electronics		└	Module name	Measurements
	└ CAN MAC address		└	Module part numb.	└ Ribb. rest length
	L Module type		└	Serial number	└ Ribbon diameter
L	BasicIO		└	Production date	└ Ribb. rewinder Ø
	└ Module name		└	Electronics	└ Mat. rewinder Ø
	└ Module part numb.		└	CAN MAC address	L Head temperature
	└ PCB part number	L	Module type		
	└ Serial number				

Table 14: Parameter menu part 6 (parameters in brackets are only visible with "service mode" access rights)

³⁵ Only with installed 8IO board.³⁶ Only with installed APSF board.³⁷ Only with installed second 8IO board.

Parameter Reference

Print contrast

Setting range	Default setting	Step size	Easy Plug
[1...110] %	65%	1	#IH, #PC2045

CAUTION!

The parameter Print contrast affects directly the life duration of the print head. It counts: „The higher the setting of Print contrast is, the lower is the life duration of the print head“. This counts even more for settings above 100%. Therefore mind:

- Always choose the lowest possible setting necessary to produce an acceptable print result.

Head pressure

Setting range	Default setting	Step size	Easy Plug
[0.1...3.0]	1.0	0.1	#PC2045

Setting of the pressure that presses the print head at the print roller (1=low pressure, 3=high pressure).

! The setting corresponds to the adjustment-knob settings "I" to "III" at older machine types.

X - Printadjust

Setting range	Default setting	Step size	Easy Plug
[-15...15] mm	0.0 mm	0.1 mm	#PC1020

The zero point of the mask is moved in relation to the edge of the label on the X axis, i. e. lengthways to the material.

- Maximum offset away from the edge of the label: +15.0 mm
- No offset: 0.0mm
- Maximum offset towards the edge of the label: -15.0 mm

! If the setting is changed, while the print job is stopped, the printer recalculates the format using the changed values.

Caution with graphics, which are generated via one of the Easy Plug commands #YI, #YIR or #YIB! If the graphics is shifted beyond the label border as a consequence of changing the parameter X - Printadjust, the part of the graphics which "juts out" will get lost.

Y - Printadjust

Setting range	Default setting	Step size	Easy Plug
[-15...15] mm	0.0 mm	0.1 mm	#PC1021

The zero point of the mask is moved in relation to the edge of the label on the Y axis, i. e. in the feed direction.

- Maximum offset in feed direction: +15.0 mm
- No offset: 0.0mm
- Maximum offset against feed direction: -15.0 mm

! If the setting is changed, while the print job is stopped, the printer recalculates the format using the changed values.

Caution with graphics, which are generated via one of the Easy Plug commands #YI, #YIR or #YIB! If the graphics is shifted beyond the label border as a consequence of changing the parameter X - Printadjust, the part of the graphics which "juts out" will get lost.

Print speed

Setting range (Inch/s)	Default setting	Step size	Easy Plug
XPA 934: [3.0..12.0] Inch/s XPA 935/936: [3.0..10.0] Inch/s XDM/XPM 944: [4.0..16.0] Inch/s XDM/XPM 945: [4.0..14.0] Inch/s XDM/XPM 946: [4.0..12.0] Inch/s	8.0 Inch/s	0.1 Inch/s	#PC1003, #PR

Setting range (mm/s)	Default setting	Step size	Easy Plug
XPA 934: [76..305] mm/s XPA 935/936: [76..254] mm/s XDM/XPM 944: [102..406] mm/s XDM/XPM 945: [102..356] mm/s XDM/XPM 946: [102..305] mm/s	203 mm/s	1 mm/s	#PC1051, #PR

! The speed unit can be switched between Inch/s and mm/s (see parameter Speed unit).

The print speed (material feed) can be adjusted according to the ribbon and material combination being used in order to optimise the contrast depth and the density of the print image.

Delete Job

After activating the function, the printer cancels the processing of the active print job.

Delete Spooler

After activating the function, all print jobs in the printer spooler are deleted..

Print method

Settings	Default setting	Step size	Easy Plug
Thermo transfer, Thermal printing, Thermal/headlift	Thermo transfer	--	#PC2018, #ER

- *Thermo transfer*: Thermo transfer printing (ribbon end sensor is switched on)
- *Thermal printing*: Thermo direct printing (ribbon end sensor is switched off)

- *Thermal/headlift*: The print head is raised in areas where there is no printing to prevent unnecessary mechanical wear on the print head.

Detect label length

! Only works if label material is inserted.

Measures the label length and writes the value to parameter **Material length**. During the measurement, the label material is fed approx. 2 label lengths.

Material type

Settings	Default setting	Step size	Easy Plug
Endless, Punched	Punched	--	#PC1005, #IM

Definition of the used label material. A distinction is made between endless material and gapped material (hole gaps, self-adhesive material with register gaps). The detected gap position corresponds to the start of the label.

- *Endless*: If material is to be used without gaps
- *Punched*: If material is to be used with gaps

! The value is overwritten by the appropriate Easy Plug command when sending label formats.

Material length

Settings	Default setting	Step size	Easy Plug
[5...max. label length ^[38]]	100 mm	0.1 mm	#PC1006, #IM

The material length (label length) is the distance between the gaps, measured from the front edge (beginning) of a label to the front edge of the next label.

! The value is overwritten by the appropriate Easy Plug command when sending label formats.

Material width

Settings	Default setting	Step size	Easy Plug
6,0...max. width ^[39]	100 mm	0.1 mm	#PC1007, #IM

Zero position of the left border. If the printer is working in line-printer mode, alterations can be made in millimetre units.

³⁸ The max. label length depends on several factors, e. g. the memory configuration.

³⁹ The max. width depends on several factors, e. g. the memory configuration.

Label sens. type

(Label sensor type)

Settings	Default setting	Step size	Easy Plug
Punched, Reflex, Clear label sensor, APSF label sensor	Punched	--	#PC2015, #IM

- *Punched*: Light transmission sensor for labels with transparent or register gaps (self-adhesive labels)
- *Reflex*: Reflex sensor for detection of black marks on the bottom side of the label material

 The setting "Reflex" appears only when

- the optional combined sensor is installed
- the combined sensor is activated (Options > Sensor type = "Combined sensor")

- *Clear label sensor*: Sensor for detecting transparent labels (option for XPA 93x and XDM/XPM 94x)
- *APSF label sensor*: Sensor connected externally to the APSF board for detecting transparent labels

Ribbon width

Settings	Default setting	Step size	Easy Plug
XPA 934[25...110] mm XPA 935[30...132] mm XPA 936[30...164] mm	110 mm 132 mm 164 mm	1 mm	#PC1033

Width of the applied thermotransfer ribbon.

Color Side

Settings	Default setting	Step size	Easy Plug
inside, outside	inside	--	#PC1049

- *inside*: The ribbon roll is wound with the color side *inwards*.
- *outside*: The ribbon roll is wound with the color side *outwards*.

Ribbon length

Setting range	Default setting	Step size	Easy Plug
[300.0...1300.0] m	1000.0 m	0.1 m	#PC1038

Ribbon length of the applied ribbon roll. The ribbon length is marked on the packaging of the new ribbon roll. This setting is important for proper functioning of the ribbon-end warning.

Outer ribbon Ø

(Outer ribbon roll diameter)

Setting range	Default setting	Step size	Easy Plug
[50.0...150.0] mm	100.0 mm	0.1 mm	#PC1039

Outer Ø of the applied ribbon roll. This setting is important for proper functioning of the ribbon-end warning.

Inner ribbon Ø

(Inner ribbon roll diameter)

Setting range	Default setting	Step size	Easy Plug
[28.0...40.0] mm	33.0 mm	0.1 mm	#PC1040

Inner Ø of the applied ribbon roll. This setting is important for proper functioning of the ribbon-end warning.

! Inner Ø of the ribbon roll = Outer Ø of the ribbon core!

Head lift autom.

Setting range	Default setting	Step size	Easy Plug
Off, On	On	--	#PC3306

Switches the “Head lift automatic” on or off. In high-speed and/or small-label applications, it has been found that the impression accuracy varies depending on whether printing stops between the labels or not. The “Head lift automatic” function ensures that the print head is briefly lifted between all labels, thus ensuring a more uniform impression accuracy.

! The function reduces the label throughput, since the time required for the head lift per label is about 80 ms.

Ribbon end warn.

Setting range	Default setting	Step size	Easy Plug
[5...300] m	25 m	5 m	#PC2083

Setting of a limit length for the remaining ribbon. If the remaining ribbon length falls below the set value, appears a...

- Warning, if System > Print Control > Ribbon warn stop = “Off”
- Error message, if System > Print Control > Ribbon warn stop = “On”; Furthermore, the printer stops

Also refer to parameter Ribbon diameter.

Ribbon warn stop

Settings	Default setting	Step size	Easy Plug
Off, On	Off	--	#PC2060

- *Off*: Display shows ribbon warning; printer does *not* stop
- *On*: Display shows status message (see below); printer stops after the current label

```
Status: 5110
Ribbon low
```

Temp. reduction

(Reduction in the print head temperature)

Setting range	Default setting	Step size	Easy Plug
[0...100]%	20%	5%	#PC2026

Reduces the power supply in the event of an increase in the print head temperature, there-by ensuring an evenly good print image.

The following setting alternatives are available:

- 0%: No temperature reduction.
- xx%: Up to xx% temperature reduction with a hot print head.

For details refer to chapter **Temperature Compensation** on page 104.

Ribbon autoecon.

(Ribbon automatic economy)

Setting range	Default setting	Step size	Easy Plug
On, Off	Off	--	#PC2087

Switching on the ribbon automatic economy mode in thermal transfer mode interrupts the ribbon feed between print periods. This saves ribbon, particularly with long labels with a minimum print area.

! The ribbon automatic economy mode should only be activated with unprinted areas from at least approx. 10mm in length.

- *Off*: Ribbon automatic economy mode is off
- *On*: Ribbon automatic economy mode is on

Head down lead

! Only with activated ribbon automatic economy mode (Print > Material > Ribbon > Ribbon autoecon. = "On") or with activated head lift function (Print > Material > Label > Print method = "Thermal/headlift").

Setting range	Default setting	Step size	Easy Plug
[0.0..10.0] mm	0.0 mm	0.1 mm	#PC2077

Determines the distance by which the printhead lowers before the first dot to be printed. The function improves the print quality at the beginning of a print area when automatic ribbon economy is activated with thermal transfer printing or when the head lift function is activated in thermo direct printing.

Ribb. eco. limit

(Ribbon economy limit)

! Only with activated ribbon automatic economy mode (Print > Material > Ribbon > Ribbon autoecon. = "On").

Setting range	Default setting	Step size	Easy Plug
[20..100.0] mm	10.0 mm	0.1 mm	#PC2019

The ribbon economy limit determines the length of the printing free area on the label from that on the ribbon economy automatic should be activated.

Feed mode

Setting range	Default setting	Step size	Easy Plug
Head up, Head down	Head up	--	#PC2058

- *Head up*: The printhead is *lifted* during label material initialization and label feeding..
- *Head down*: The printhead is *down* during label material initialization and label feeding. For certain critical label materials, this setting can result in a better impression accuracy on the first label compared to the following labels.

Head up limit

 Only with activated head lift function (Print > Material > Label > Print method = "Thermal/headlift").

Setting range	Default setting	Step size	Easy Plug
[2.0..100.0] mm	10.0 mm	0.1 mm	#PC3006

The head up limit determines the length of the printing free area on the label from that on the head lift function should be activated.

Definition of Favorites

It is possible to create a Favorites menu item containing a selection of parameters as required.

Selecting favorites in the web panel



Favorites are set in the web panel in the machine settings view. To do this, the operator must be logged in to the web panel with the service role.

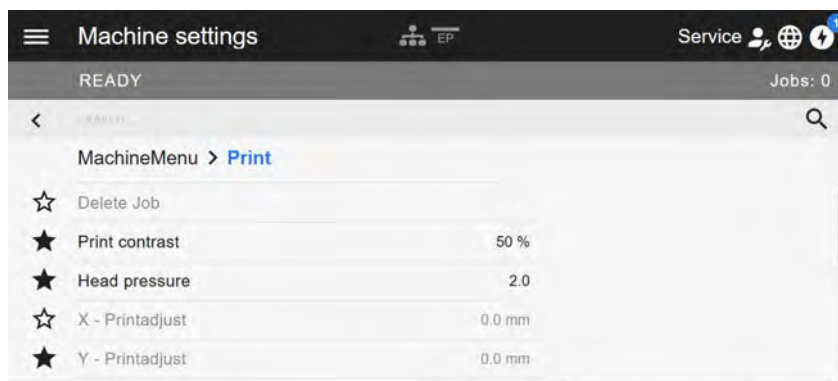


Fig. 36: Machine settings view in the web panel. The stars to the left of the parameters mark the favorites. Filled star = parameter selected for favorites menu.

- Click on the star next to the parameter to select it as favorite (see figure above).

Related reference

"Machine settings" view on page 47

CONNECTIONS

**WARNING!**

This machine operates using mains voltage! Touching live electrical parts may expose you to hazardous electrical currents and may lead to burns.

- Make sure that the machine is switched off before connecting the power cable.
- Only connect the machine to a grounded power socket fitted to authorised standards.
- Only link the machine to devices that fulfil the ES1 circuit requirements specified in EN 62368-1.

CAUTION!

Risk of machine damage due to defective accessories.

- Only connect original accessories.

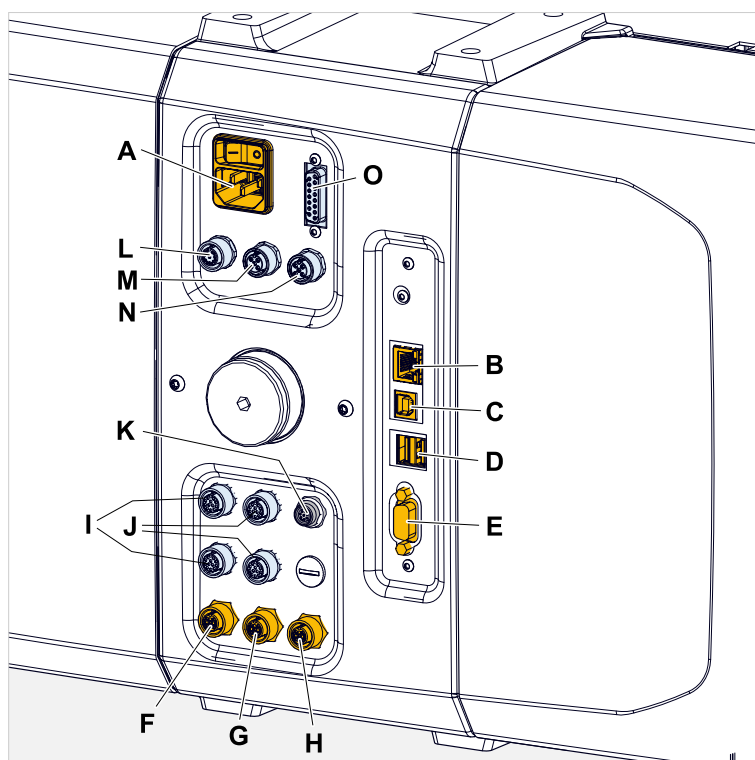


Fig. 37: Connections at a XPA 93x (orange = standard; blue = optional).

Pos.	Connection	Application
A	Connection to the mains power supply	Power supply
B	Network connection (Ethernet 10/100/1000)	Used to transfer print jobs from a host (for example a PC); transfer firmware; read service data; operation via web server
C	USB interface type B (device)	Used to transfer print jobs from a host (for example a PC); transfer firmware; read service data

Pos.	Connection	Application
D	2 USB interfaces type A (host)	Used to connect devices, for example keyboard or scanner or external memory media
E	Serial interface (RS232)	Used to transfer print jobs from a host (for example a PC); transfer firmware; read service data
F	Start sensor	Triggers the printing dispensing (applying) cycle; suitable for a standard industrial sensor, e.g. Novexx N102106 or N102109
G	Outer diameter (OD) sensor	The OD sensor is integrated in the material unwinder "Pro 300"; it signals the near end of the material roll
H	Signal interface	Outputs status signals that can be used directly with the Novexx N102104 signal beacon
I	(Optional) Signal interface	Additional applicator signals or USI signals
J	(Optional) Signal interface	Applicator or USI signals; e. g. for connection of an applicator
K	(Optional) Remote control panel	
L	(Optional) Rotary encoder	If available, the encoder transmits the instantaneous speed of a conveyor belt to the machine control system.
M	(Optional)	Not supported with the current firmware version
N	(Optional)	Not supported with the current firmware version
O	(Optional) Peripheral device	Connection for the LTMA applicator

Related tasks

[Connecting to the mains power supply](#) on page 68

Related reference

[Connecting to a data host](#) on page 69

Before Operation

ELECTRICAL CONNECTIONS

Connecting to the mains power supply

**WARNING!**

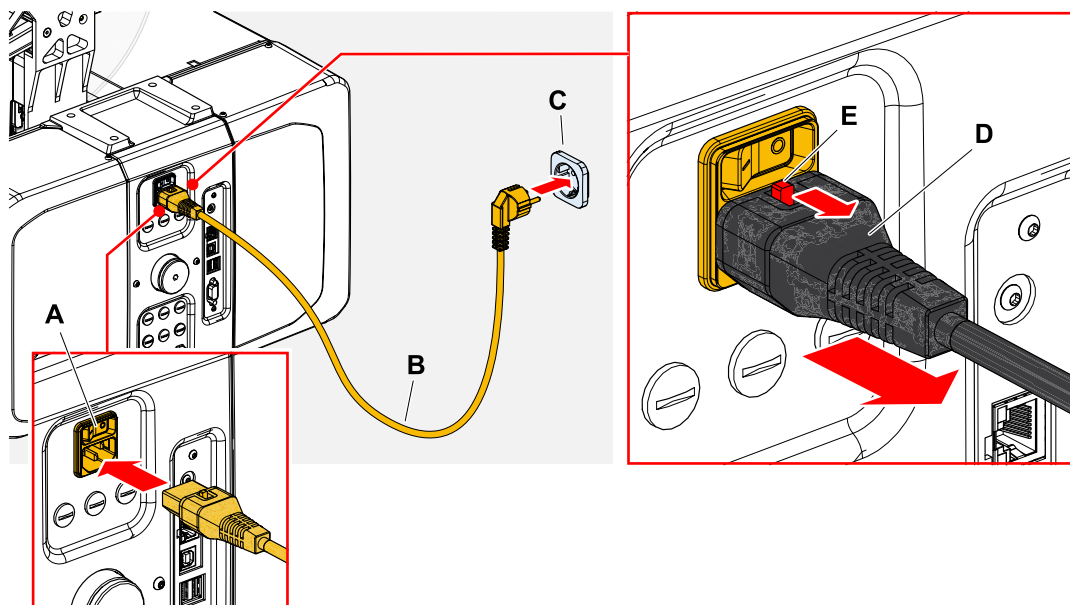
This machine operates at mains voltage! Contacting electrically live components can cause lethal electrical shocks and burns.

- ▶ Make sure that the machine is switched off before connecting the power cable.
- ▶ Only operate the machine at the mains voltage given on the type plate.
- ▶ Only connect the machine to a grounded power socket fitted to authorised standards.

Procedure

Connecting the mains connection cable:

1. Ensure that the machine is switched off (mains power switch (A) in position "O").



2. Connect the machine to a mains power socket (C) using the provided mains connection cable (B).



Depending on the country of delivery, the mains connection cable may have a different plug for the public power supply than the one shown.

Disconnecting the mains connection cable:

3. (Optional) *Optional locking cable:* Press the locking button (E, figure above) in the direction of the arrow and simultaneously pull off the cable at the plug (D, figure above).
4. *Standard cable:* Pull off the cable at the plug.

Connecting to a data host

The print data can alternatively be transmitted via one of the data interfaces:

- Ethernet
- USB
- Serial interface

The desired data interface is prompted by the setup wizard the first time you switch on the machine. The default setting is automatic recognition of the data interface.

Without using the setup wizard, the interface type can be selected with the parameter Interface > Print interface.

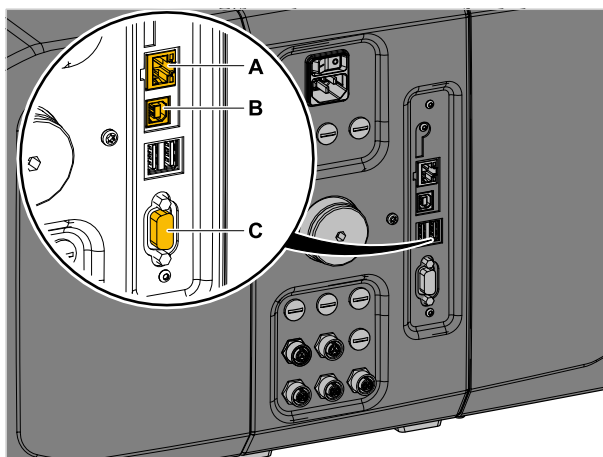


Fig. 38: Data interfaces at the XPA 93x (A Ethernet, B USB, C RS 232).

► Connect the data interface to the data host using a commercially available data cable..

You might have to set other parameters as well, depending on the interface chosen:

- Settings for the serial interface: Interface > Serial Port 1
- Settings for the Ethernet interface: Interface > Network
 - Call the network setup wizard System > Setup Wizards = “Network” to call all relevant parameters automatically.

As an alternative to transmission via a data line, print jobs can also be stored on an external storage medium and called up from there.

Connecting the start sensor

The start or product sensor triggers the print and dispense process. This is often a light barrier that is triggered by the product to be labeled.

► Connect the start sensor to connector (A) (M12 4pin).

! Depending on the equipment of the machine with optional boards more or less connections are available. However, the connection for the start sensor is always at the bottom left in the position shown in the illustration.

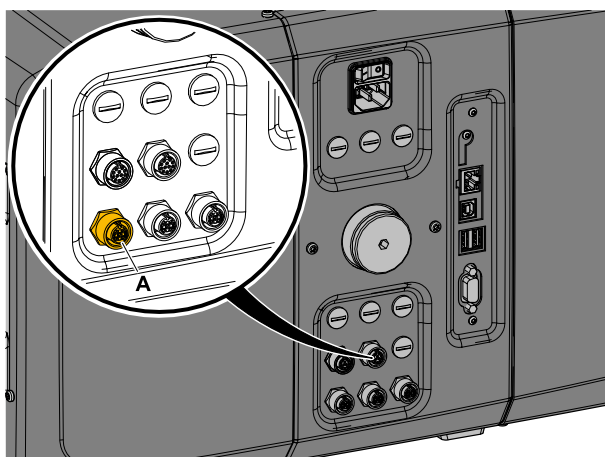


Fig. 39: Connector (A) for the start sensor on the BasicIO board.

Article numbers:

- N102106 General purpose product start sensor with holder and cable
- N102109 Product start sensor with reflector for specific product shapes and/or reflecting surfaces (e. g. glass, round shaped products) with holder and cable

Connecting an OD sensor

The outer (roll) diameter (OD) sensor is integrated in the (optional) “Pro 300” material unwinder. It monitors the material supply and triggers a warning or error message if the roll diameter falls below a certain level.

The RD sensor is connected to the “BasicIO” board.

Article number cable kit: N103074

- ▶ Connect the cable (A) with the smaller plug (B) to the unwinder and with the larger plug (C) to the “BasicIO” board (middle connection).
- ▶ Secure the cable with the two cable clamps (E) and screws (D).

! If 2 unwinders “Pro 300” are provided for the application, the OD sensors must be connected via a Y splitter (article number N102146).

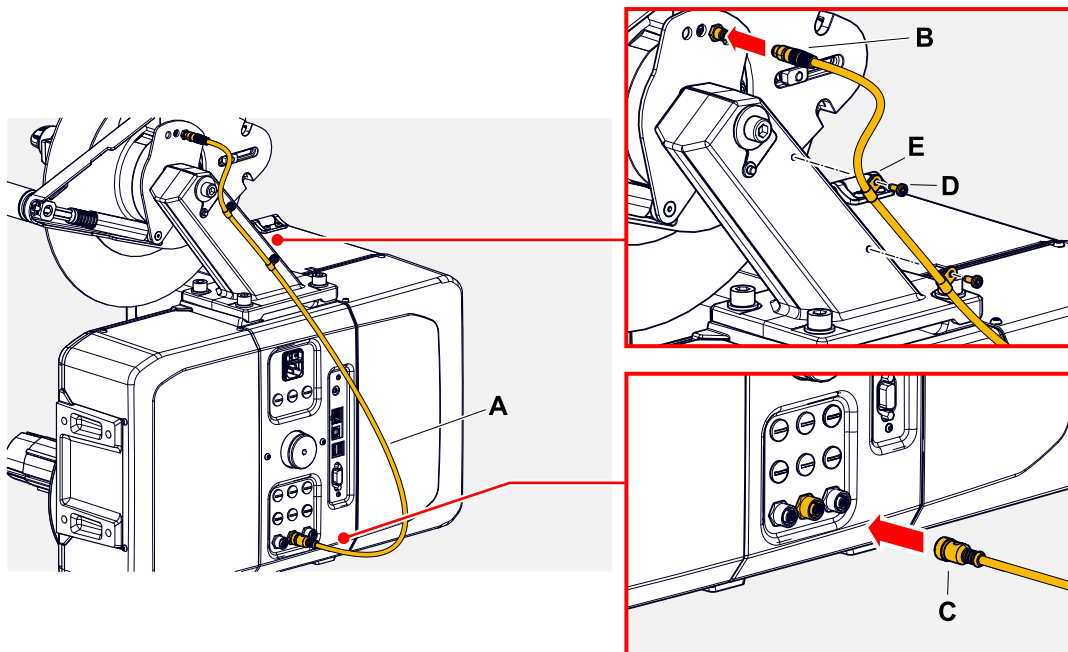


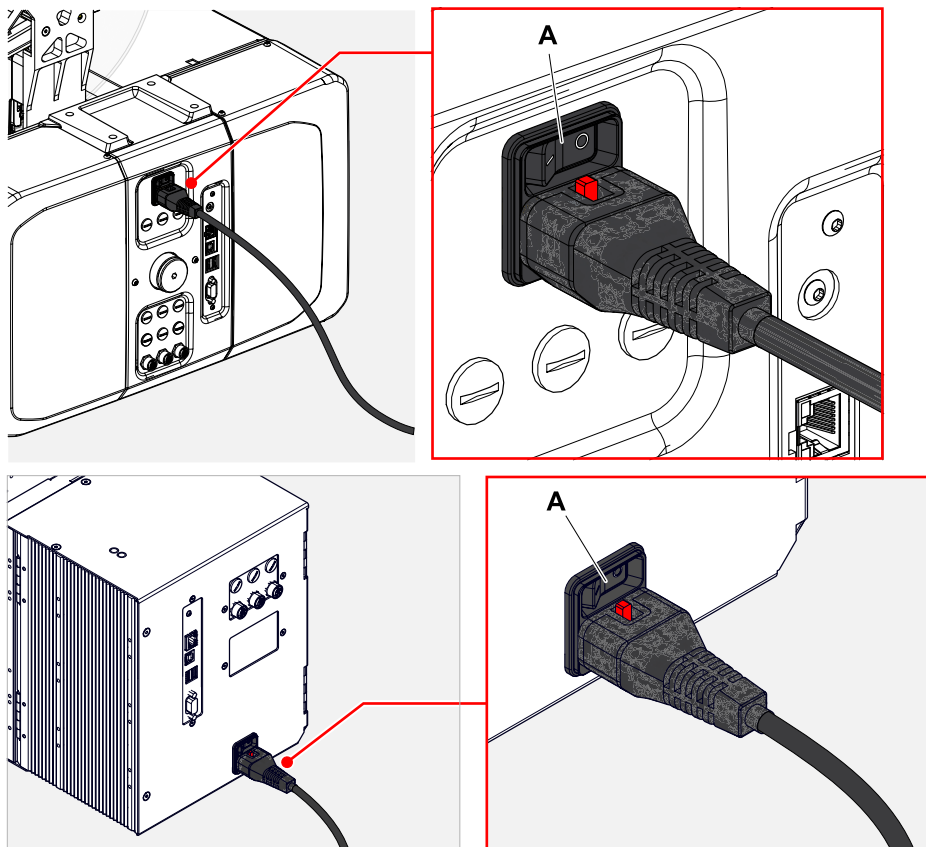
Fig. 40: Connecting the OD sensor.

► Set parameters relevant for the OD sensor: See submenu Options > BasicIO > Material OD Sensor.

SWITCHING ON/OFF

Switching on

- Set the mains switch (A) of the machine to "I" (On).



Shortly after switching on the printer, during startup, the following informations show up on the screen:

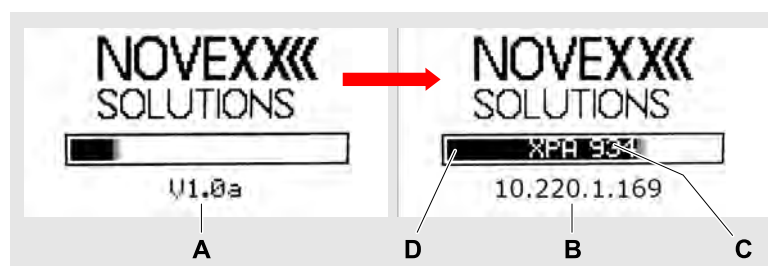


Fig. 41: Changing information on the display during startup: **A** Firmware version, **B** (Optional) IP address (if Ethernet is selected as data interface), **C** Printer type, **D** Progress bar.

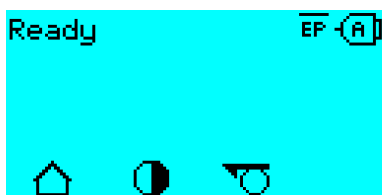


Fig. 42: Display "Ready" on the machine ready for operation.

It may happen that an error condition is detected before the unit is ready for operation. In this case, the corresponding error message is displayed, e.g.

```
Status num: 5074
Print module open
```

As soon as all error conditions have been eliminated, operational readiness is achieved.

Switching off

- Set the mains switch (A, figure above) of the machine to "O" (Off).

Standby Mode

Activating standby mode:

- Press the on/off key (A) on the control panel for approx. 3 seconds.

! In standby mode, the motion control is switched off, the CPU stays on.

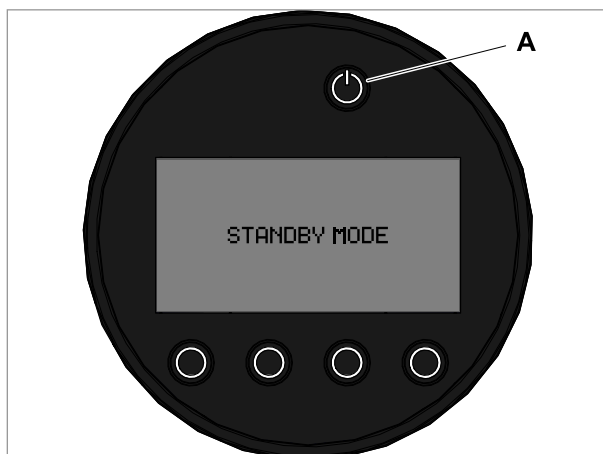


Fig. 43: Display in standby mode.

Deactivating standby mode:

- Press the on/off key (A) on the control panel for approx. 3 seconds.

Restart

A restart is faster than switching the machine on and off completely, as only part of the firmware is restarted.

- Press the keys 1 + 2 + 3 simultaneously. Display:



- ▶ Press the  key to confirm and to trigger the restart.

BASIC SETTINGS

Basic settings with the setup wizard

The setup wizard controls the automatic retrieval of basic settings in the parameter menu that are essential for the operation of the printer.

After the first starting-up of the printer, the display shows the query „Run Setup Wizard?“.

After selecting "Yes", the parameters for the most important basic settings are queried in several groups. The relevant parameters are automatically called up for this purpose. After the basic settings, e.g. for the language or the printer interface, the network and dispense settings are optionally queried (yes/no query in each case).

Which parameters are called also depends on the selection in the preceding parameter. The last step is to display a summary of the settings made (fig. below), which must be confirmed by pressing a key.

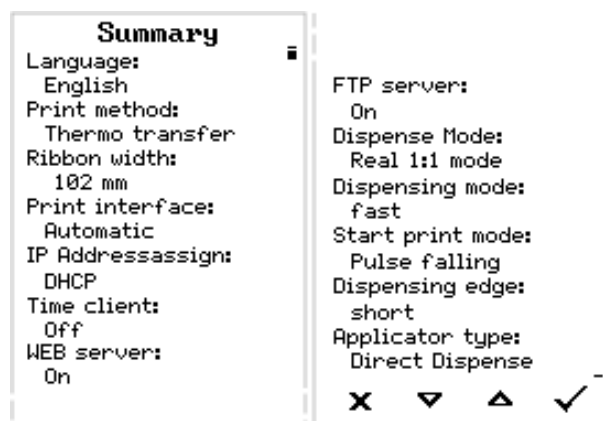


Fig. 44: Summary of the settings done by the wizard (Example, merged by image processing, in fact it must be scrolled to see all lines).

Execute settings:

- Press the  key.

A restart takes place and the settings are made.

Discard settings:

- Press the  key.

The setup wizard then starts again until either the settings are made or "Run Setup Wizard?" is answered with "No".

If "No" is selected in response to the initial question, the setup wizard will not start and the prompt "Run Setup Wizard?" will not appear even after a restart. There are then two possibilities to carry out the basic settings:

-  Call up and set the corresponding parameters manually
- Start the setup wizard manually (parameter System > Setup Wizards)

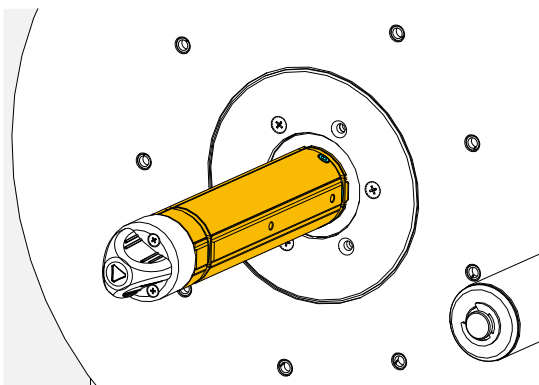
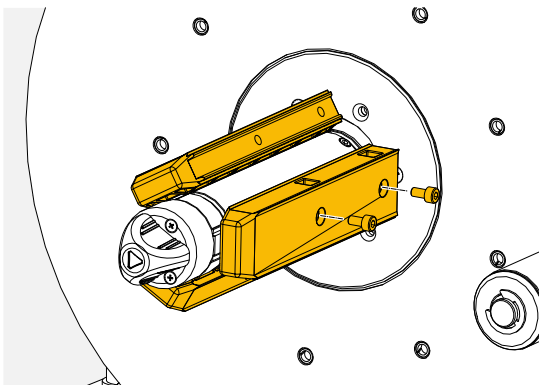
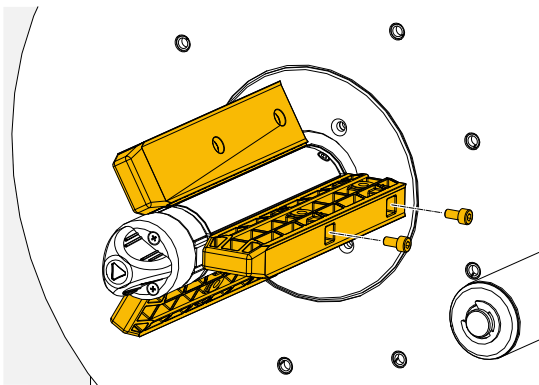
Adjusting the Core Diameter (Unwinder Pro 300)

Before operation, the mandrel of the unwinder Pro 300 must be adapted to the core diameter of the label roll.

Tool:

- 3 mm hexagon (Allen) screwdriver

The unwinder can be adjusted with core adapters to fit the inner diameter of the label roll. The adapters must be fitted and dismantled in different ways depending on this diameter:

Inner Ø label roll	Adapter	
38.1 mm (1")	none	
76.2 mm (2")	horizontal	
101.6 mm (4")	vertical	

Operation

INSERTION DIAGRAMS LH

XPA 934 LH with “compact” unwinder

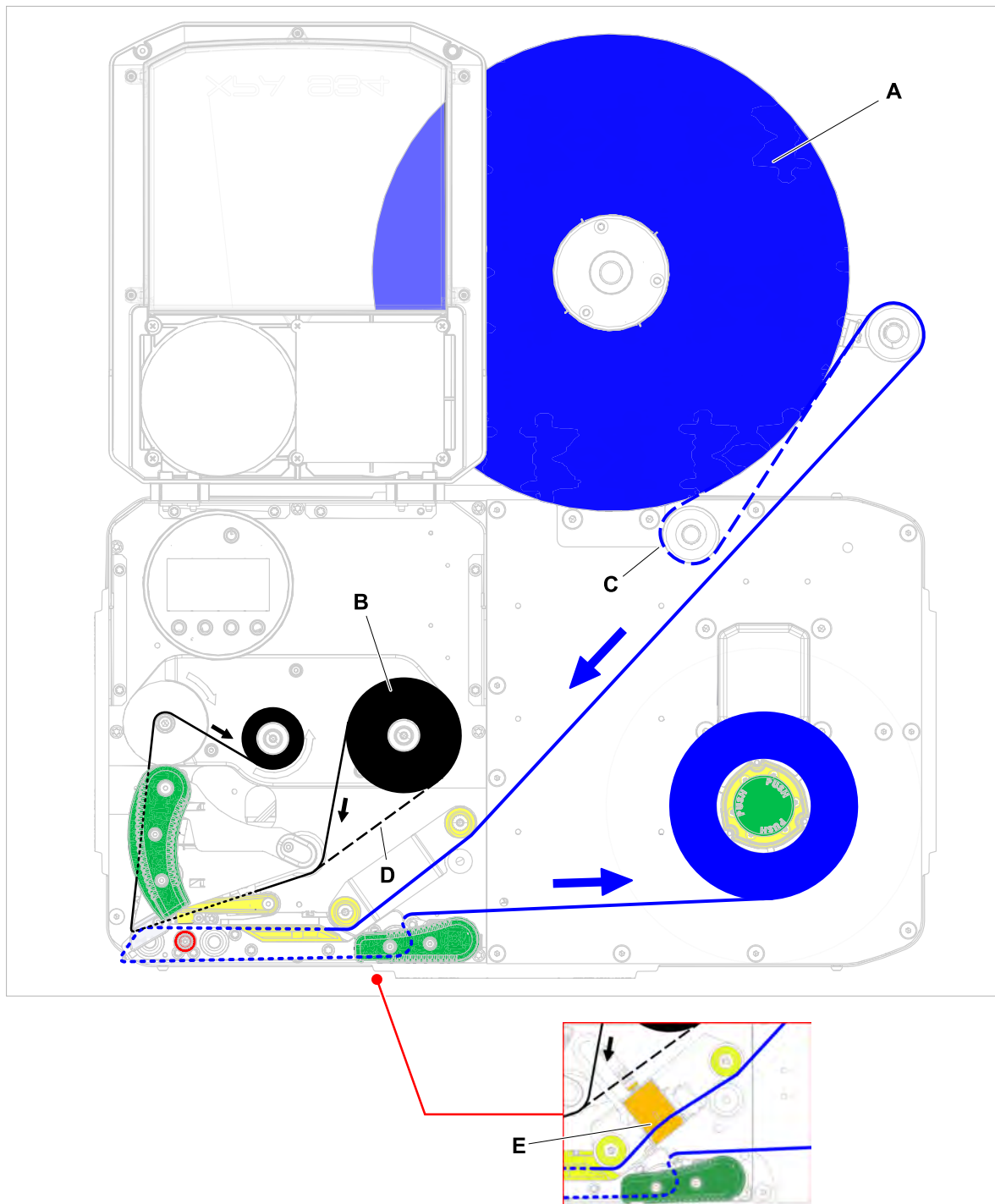


Fig. 45: Insertion diagram for label material (A) and thermotransfer ribbon (B) at a XPA 934 LH with “compact” unwinder. C = path for inside wound label material around the (here required) optional deflection roller; D = path for thermotransfer ribbon wound with ink outside; E = Material flow through optional clear label sensor.

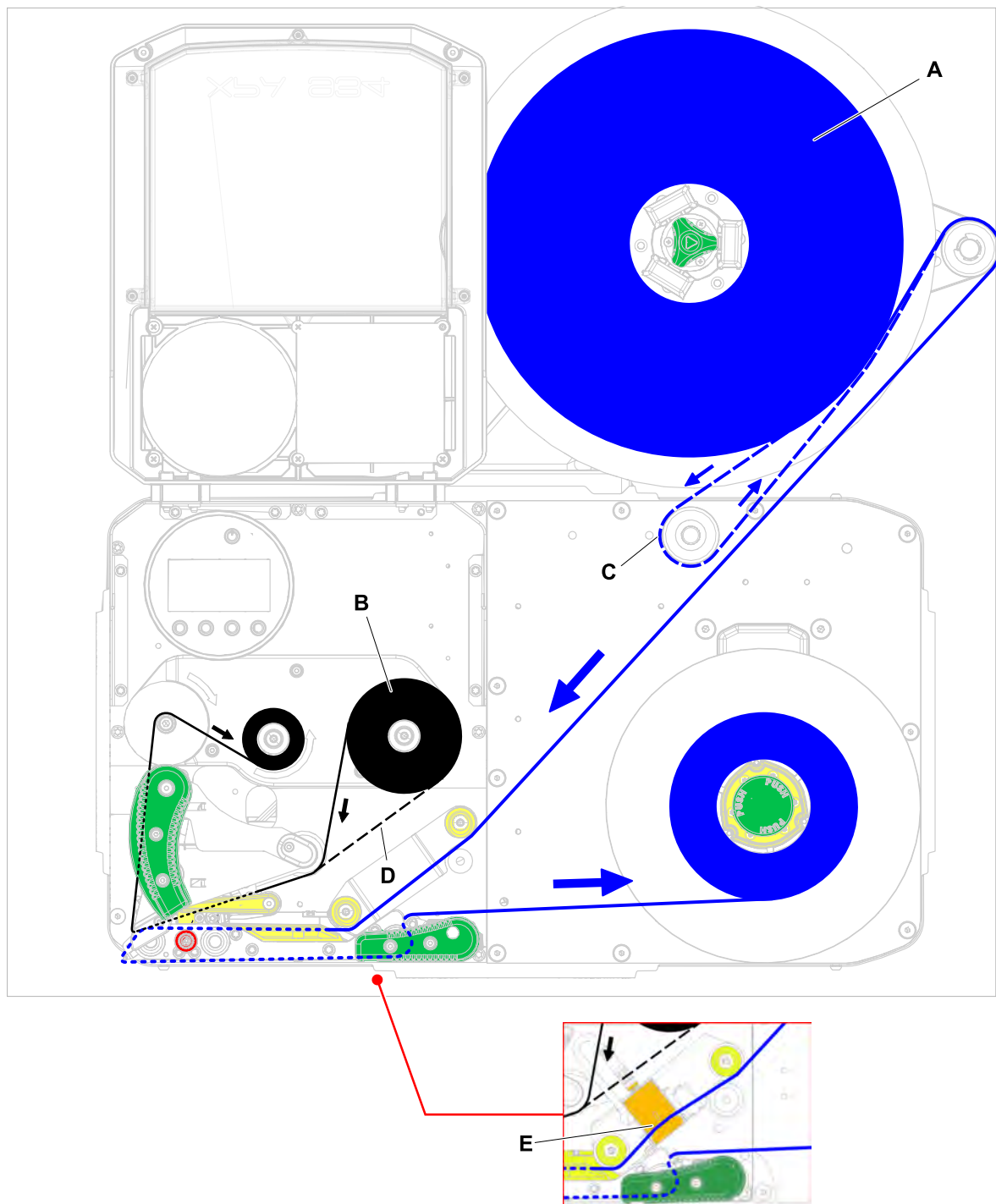
XPA 93x LH; with “Pro 300” unwinder

Fig. 46: Insertion diagram for label material (A) and thermotransfer ribbon (B) at a XPA 93x LH; with “Pro 300” unwinder (holder pointing to the *right*). C = path for inside wound label material around the (here required) optional deflection roller; D = path for thermotransfer ribbon wound with ink outside; E = Material flow through optional clear label sensor.

! The representation of the material flow using the optional clear label sensor (small image below) applies to all schemes and is only shown once here.

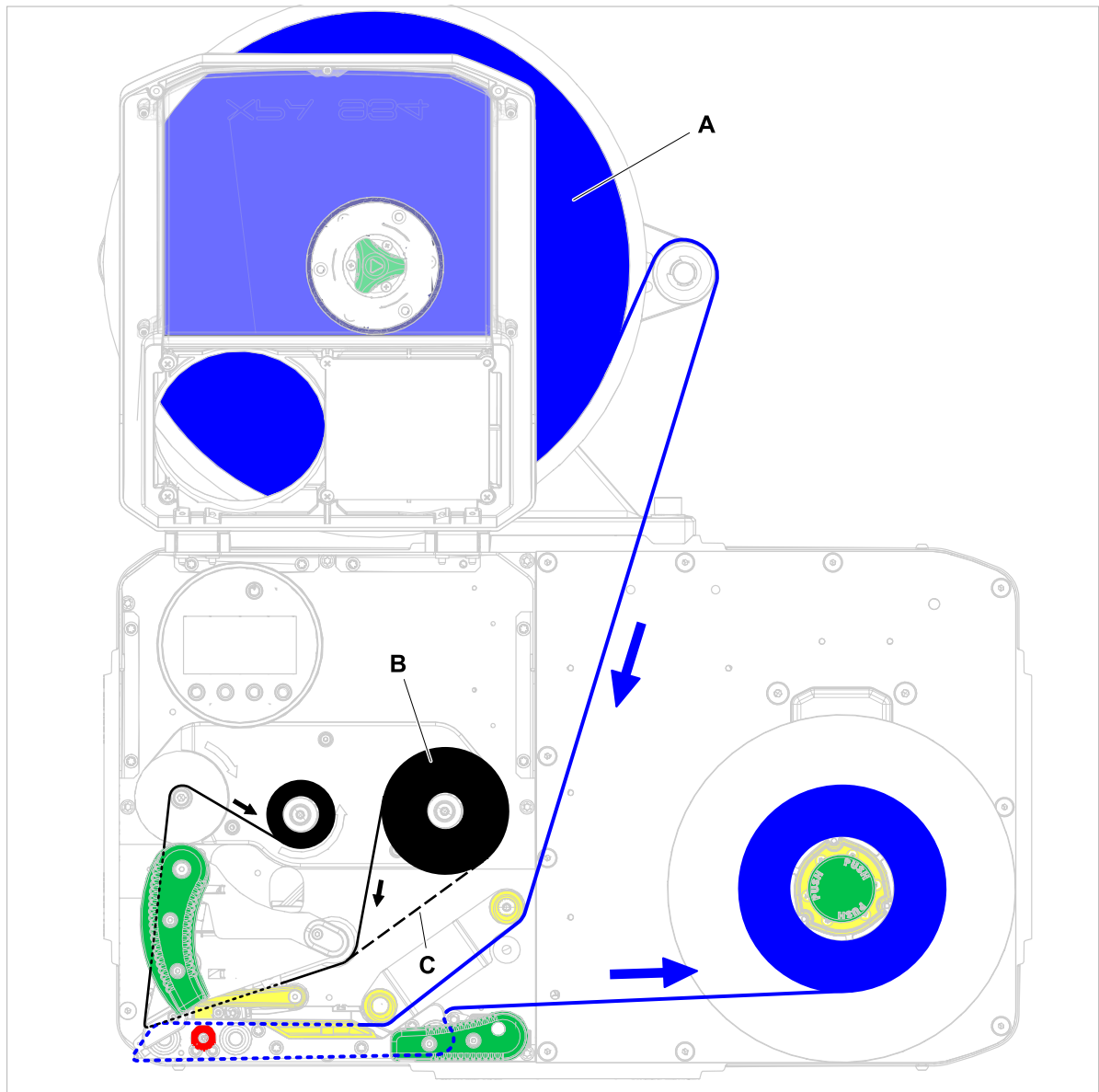


Fig. 47: Insertion diagram for label material (A) and thermotransfer ribbon (B) at a XPA 93x LH; with "Pro 300" unwinder (holder pointing to the *left*). Inside wound label material cannot be used with this configuration. C = path for thermotransfer ribbon wound with ink outside.

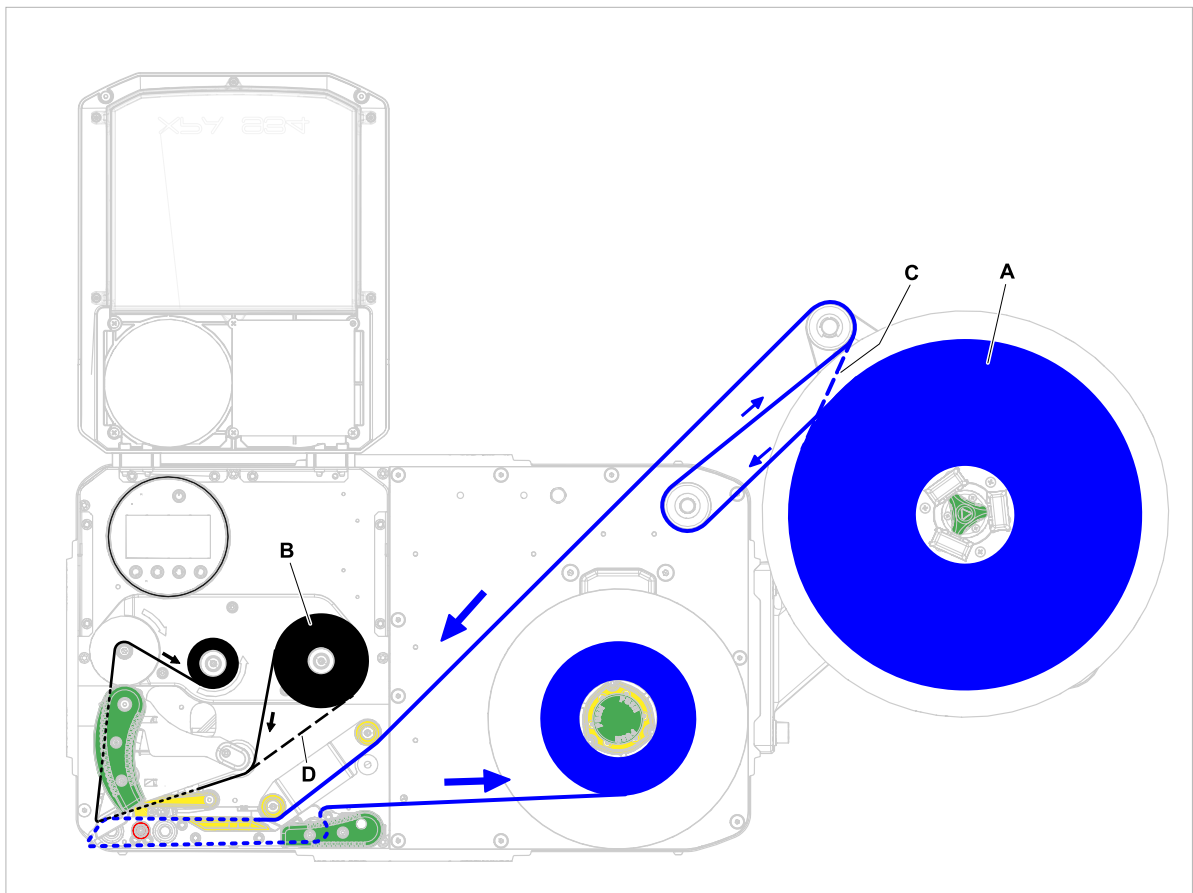


Fig. 48: Insertion diagram for label material (A) and thermotransfer ribbon (B) at a XPA 93x LH; with "Pro 300" unwinder mounted on the right side flange (holder pointing upwards). With this configuration, an optional deflection roller is required for outside wound label material. C = path for inside wound label material; D = thermotransfer ribbon wound with ink outside.

Related tasks

Inserting ribbon

Inserting Label Material on page 91

INSERTION DIAGRAMS RH

XPA 934 RH with “compact” unwinder

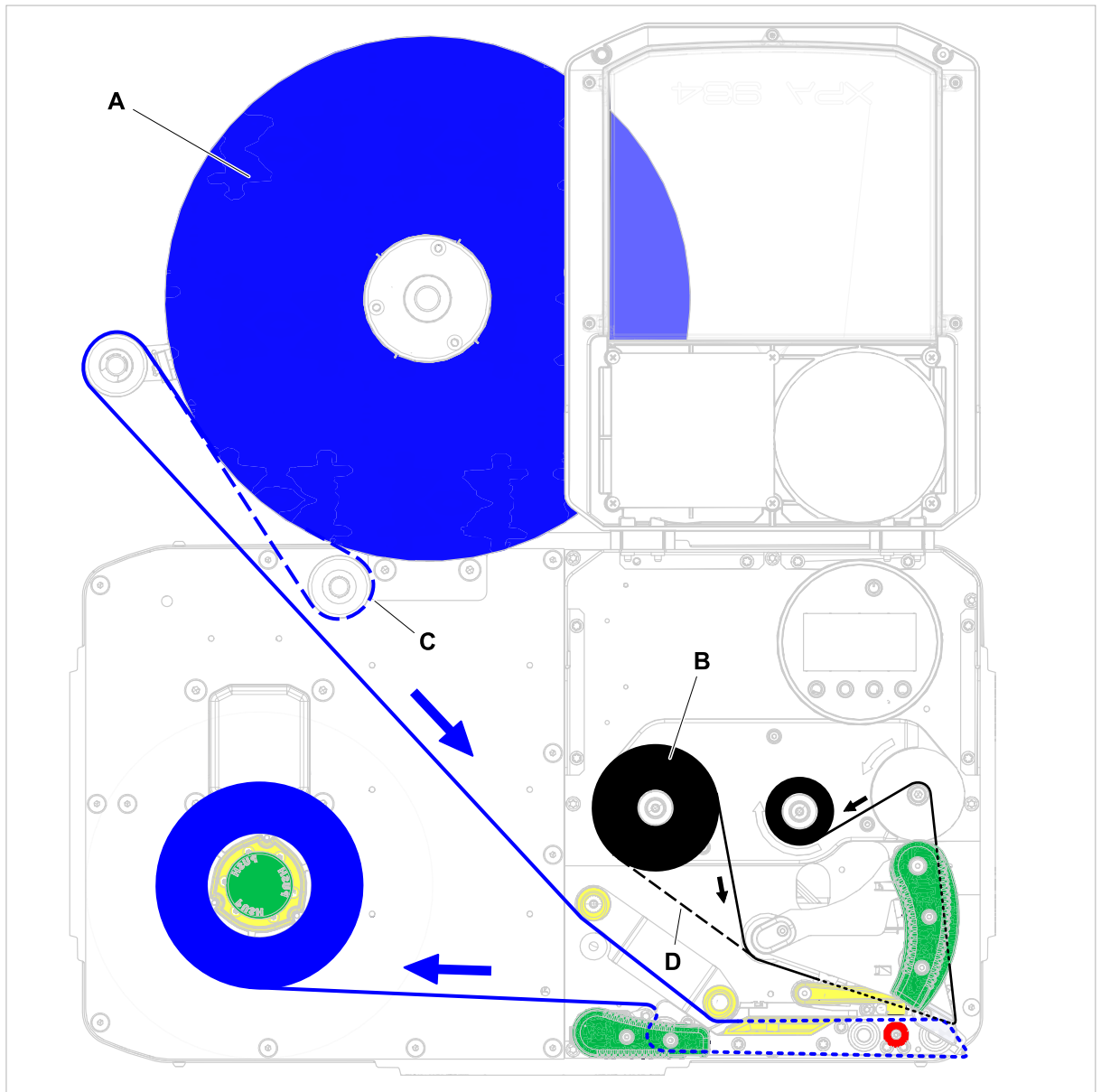


Fig. 49: Insertion diagram for label material (A) and thermotransfer ribbon (B) at a XPA 934 RH with “compact” unwinder. C = path for inside wound label material around the (here required) optional deflection roller; D = path for thermotransfer ribbon wound with ink outside.

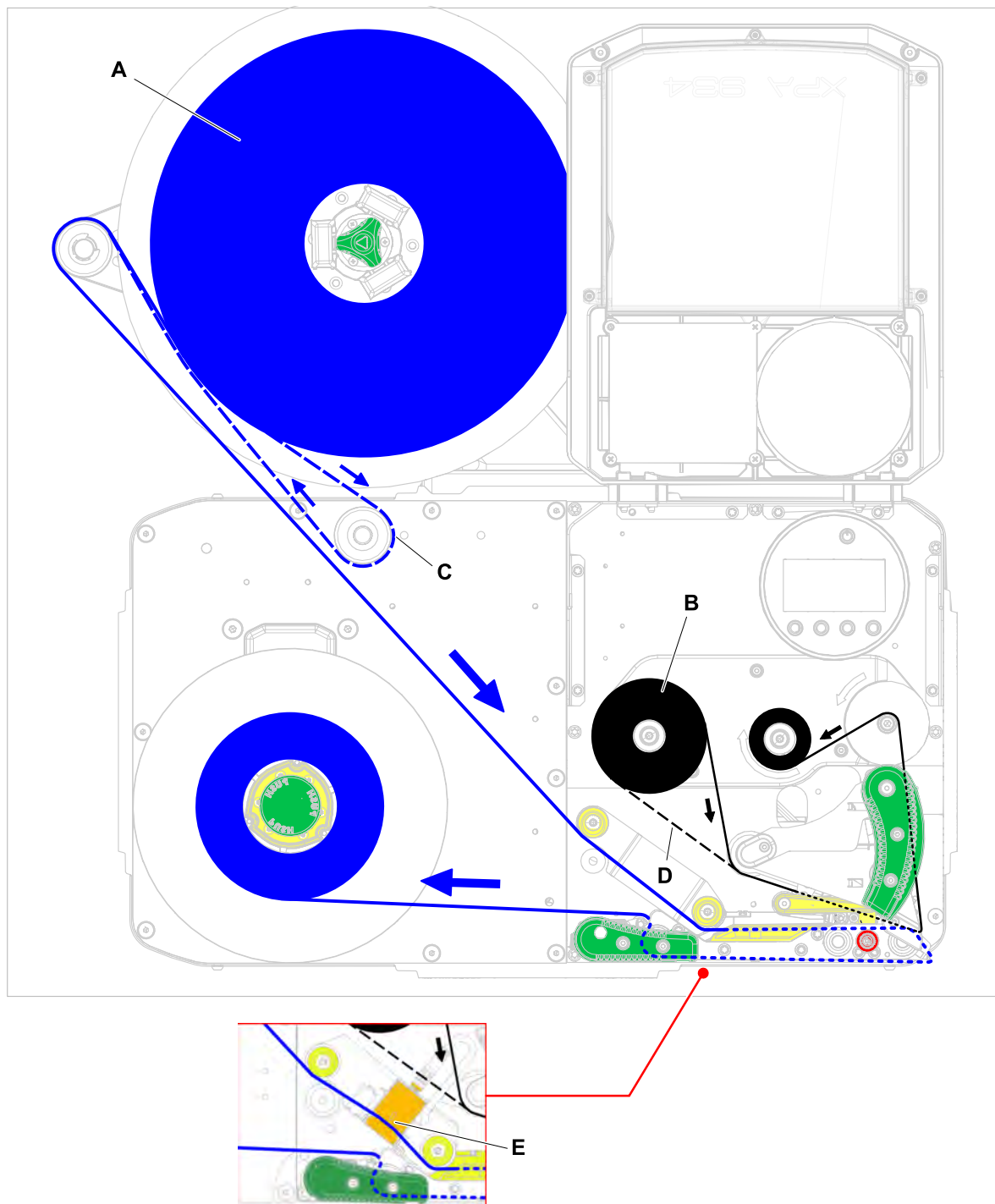
XPA 93x RH with “Pro 300” unwinder

Fig. 50: Insertion diagram for label material (A) and thermotransfer ribbon (B) at a XPA 93x RH with “Pro 300” unwinder (holder pointing to the *left*). C = path for inside wound label material around the (here required) optional deflection roller; D = path for thermotransfer ribbon wound with ink outside; E = Material flow through optional clear label sensor.

! The representation of the material flow using the optional clear label sensor (small image below) applies to all schemes and is only shown once here.

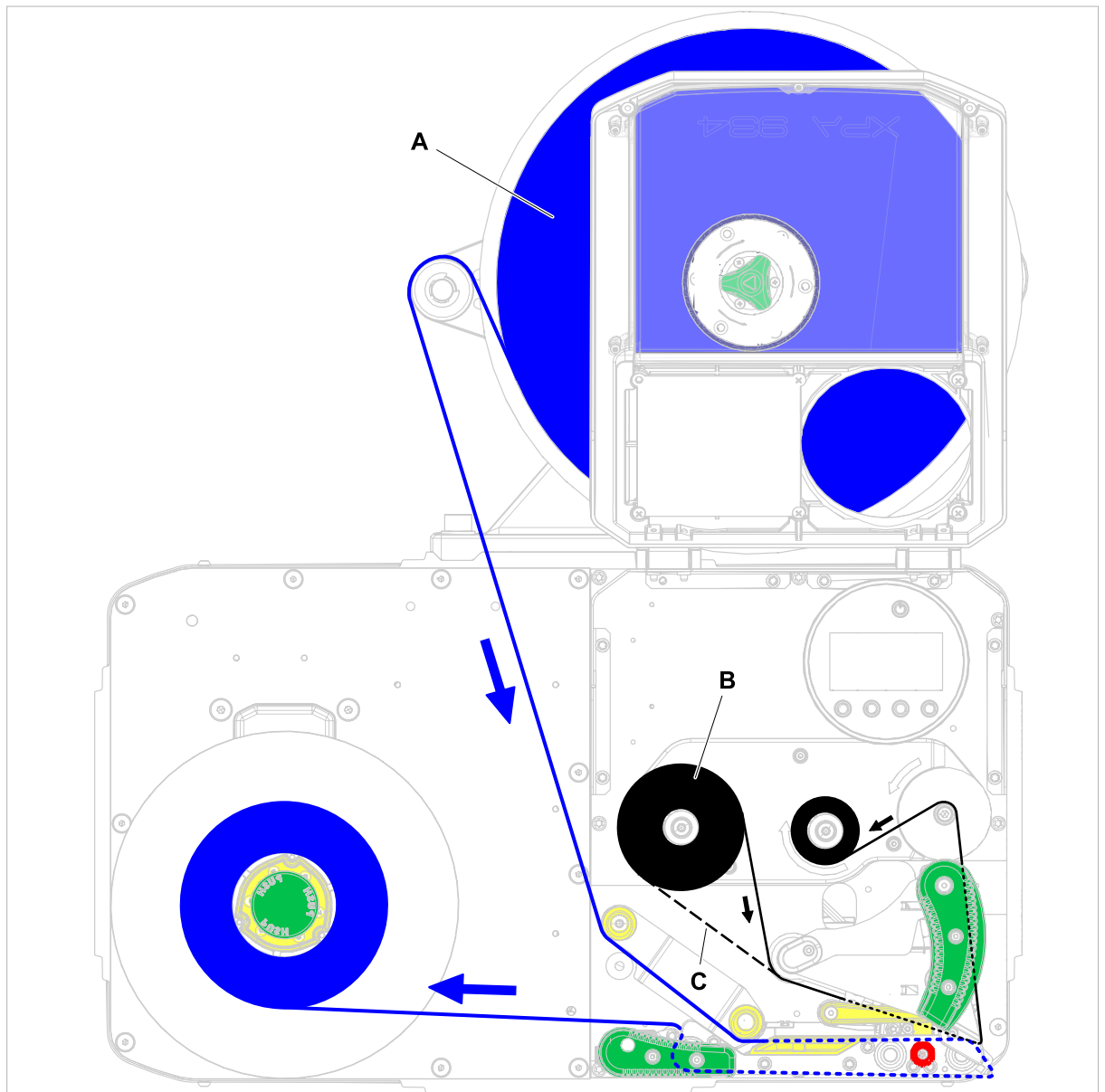


Fig. 51: Insertion diagram for label material (A) and thermotransfer ribbon (B) at a XPA 93x RH with "Pro 300" unwinder (holder pointing to the *right*). Inside wound label material cannot be used with this configuration. C = path for thermotransfer ribbon wound with ink outside.

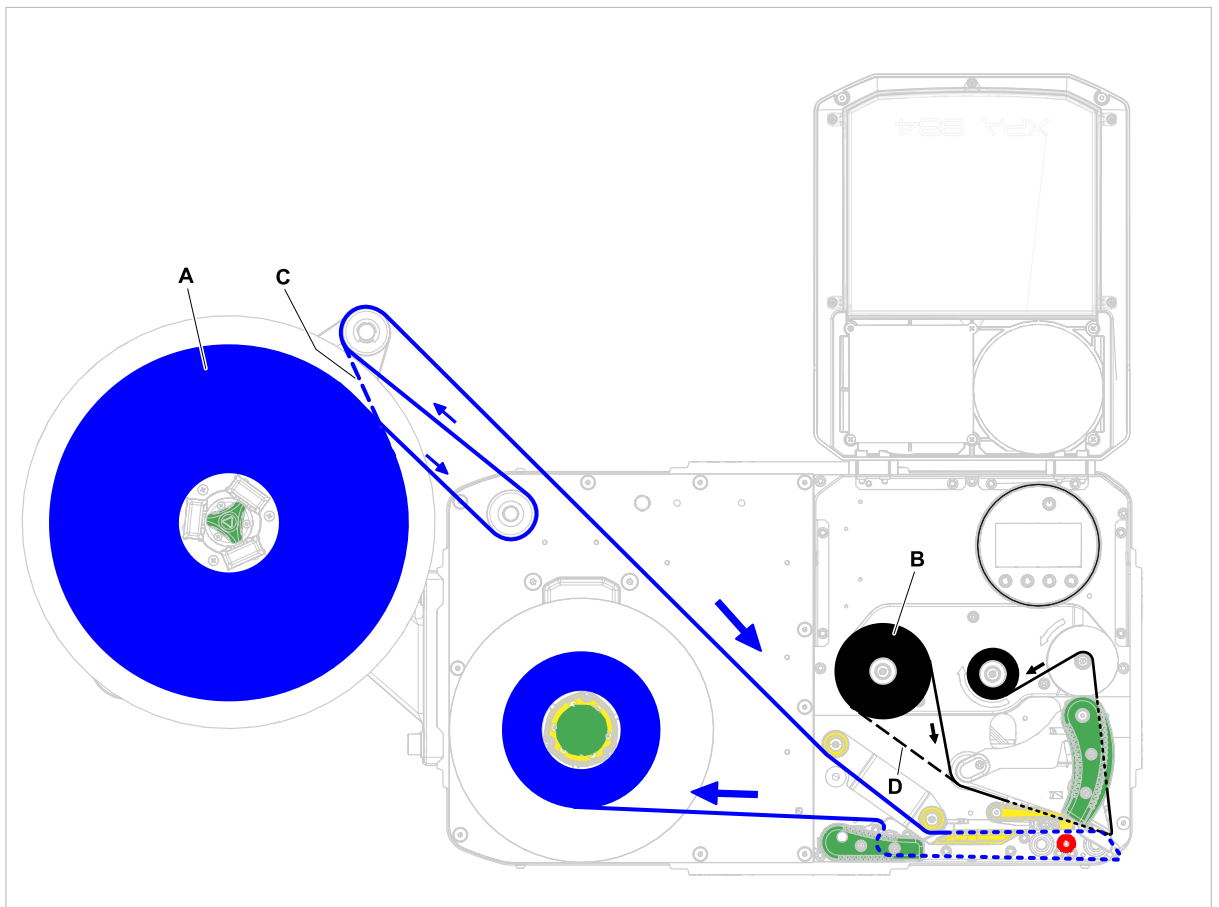


Fig. 52: Insertion diagram for label material (A) and thermotransfer ribbon (B) at a XPA 93x RH with "Pro 300" unwinder mounted on the left side flange (holder pointing upwards). With this configuration, an optional deflection roller is required for outside wound label material. C = path for inside wound label material; D = thermotransfer ribbon wound with ink outside.

Related tasks

[Inserting ribbon](#)

[Inserting Label Material](#) on page 91

INSERTING AND REMOVING RIBBON

**WARNING!**

Sharp-edged clamping plates on the ribbon mandrels!
Danger of cuts on the hands.

- Be careful when sliding on/removing the ribbon roll.

**WARNING!**

During operation, the print head can become hot!

- Be careful when touching the print head.

**WARNING!**

Danger of injury due to moving and rapidly rotating parts.

- When working on the machine, do not wear loose jewellery, long sleeves, long hair, and similar.
- Before inserting the label roll ensure that the machine is in offline mode (Home screen).
- Close the devices cover before printing.

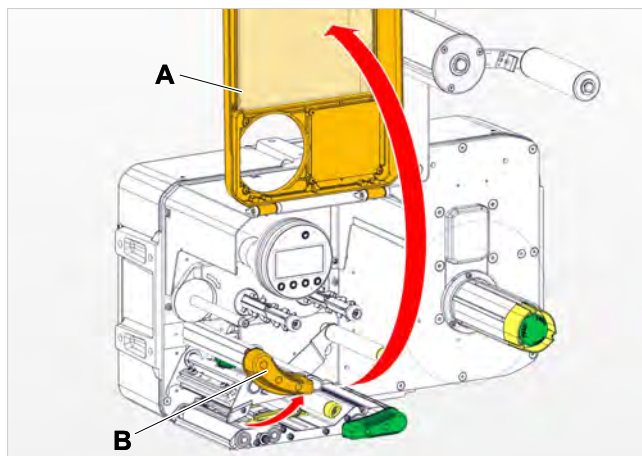
Inserting ribbon

Before you begin

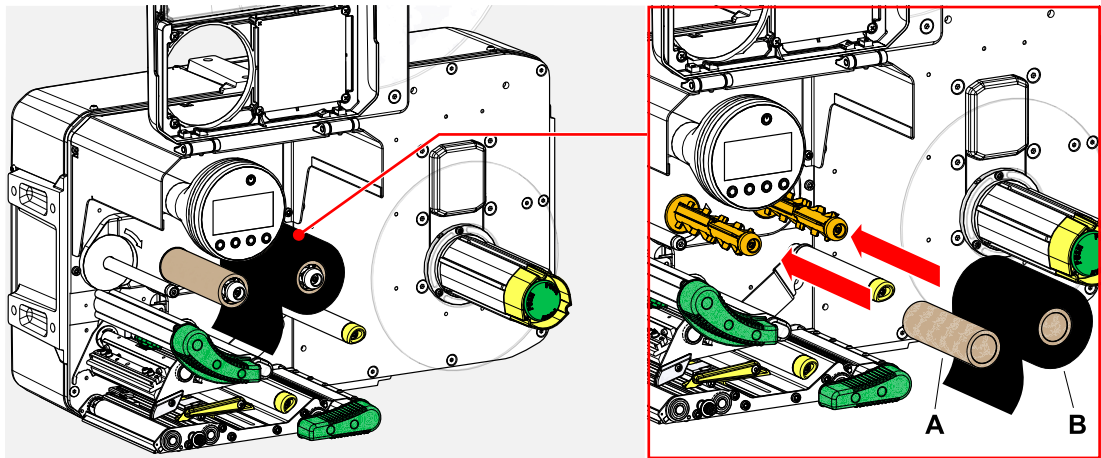
- Machine is stopped ("Home" screen)
- Used ribbon has been removed
- New ribbon roll is at hand (ribbon must match the technical data)
- At first time loading: Empty cardboard sleeve is at hand
- The warning notes about inserting ribbon have been read and understood (see **"Inserting and removing ribbon"** on page 85)

Procedure

1. Open the front hood (A, figure below).



2. Open the pressure lever on the print head (B, figure above).
3. Push the empty cardboard sleeve onto the rewinding mandrel until it stops (A, figure below).

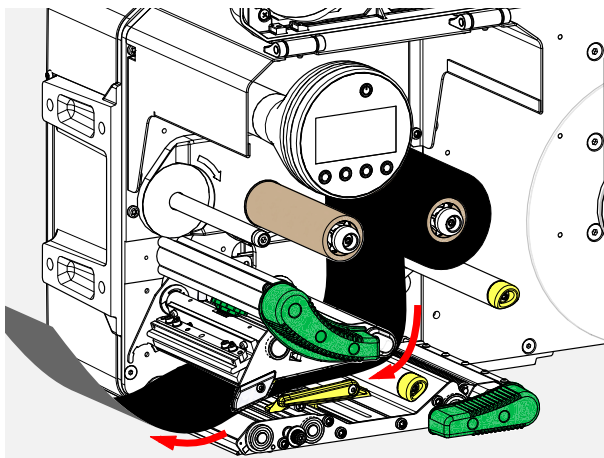


4. Push the ribbon roll onto the unwinding mandrel until it stops (B, figure above).

! Depending on the winding direction of the ribbon (color side inside or outside), the roll must be inserted differently:

- Colour side inside: *counterclockwise* rotation (pictures)
- Colour side outside: *clockwise* rotation

5. Insert the ribbon under the print head as shown:



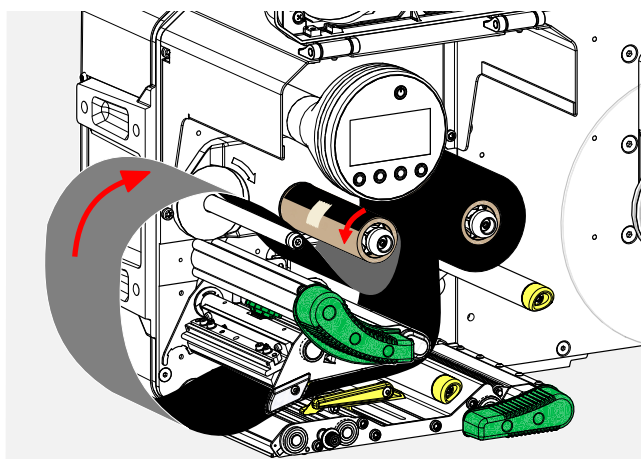
6.

CAUTION!

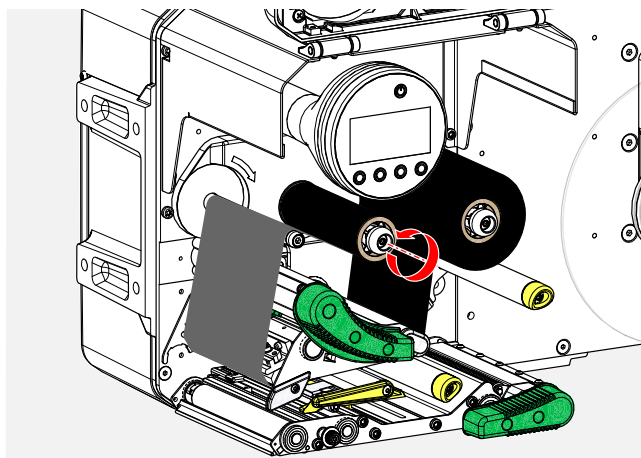
Poor printing results due to wrinkling of the ribbon!

- Tape the ribbon to the cardboard core as described (in no case wrap or knot the ribbon end around the cardboard core - the knot would lead to wrinkling!)

Insert the ribbon into the printer as shown. Fasten the end of the ribbon with adhesive tape to the empty ribbon sleeve (figure below).



7. Rotate the rewinding mandrel a few turns in a counter-clockwise direction until the ribbon is free of folds.



8. Close the pressure lever and the front hood.
9. Switch on the machine.
10. (Optional) If the ribbon type is used for the first time: Make the following parameter settings in the menu Print > Material > Ribbon:
- Ribbon width on page 61
 - Color Side on page 61
 - Ribbon length on page 61
 - Outer ribbon Ø on page 62
 - Inner ribbon Ø on page 62

Removing the used up ribbon

Before you begin

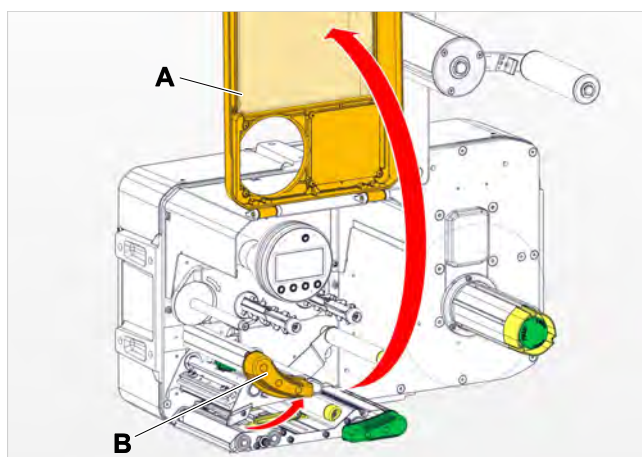
- Machine ist stopped ("Home" screen).
- The warning notes about inserting ribbon have been read and understood (see **"Inserting and removing ribbon"** on page 85)

About this task

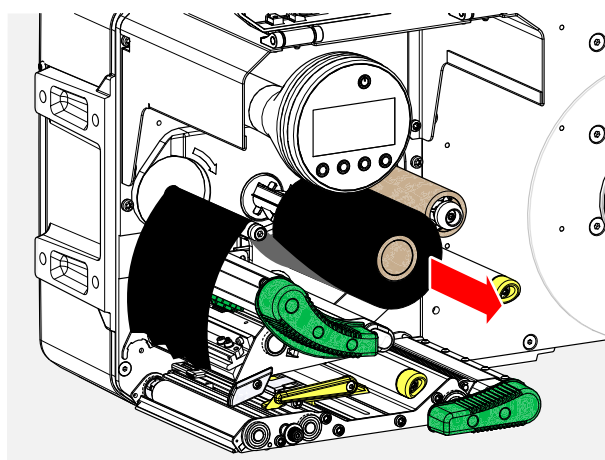
If a ribbon roll is used up, the used ribbon is all wound up on the rewinding mandrel and has to be removed from there. The ribbon end is signaled by the appropriate status message or warning on the operation panel of the machine. If a signal beacon is connected, the lamps light up.

Procedure

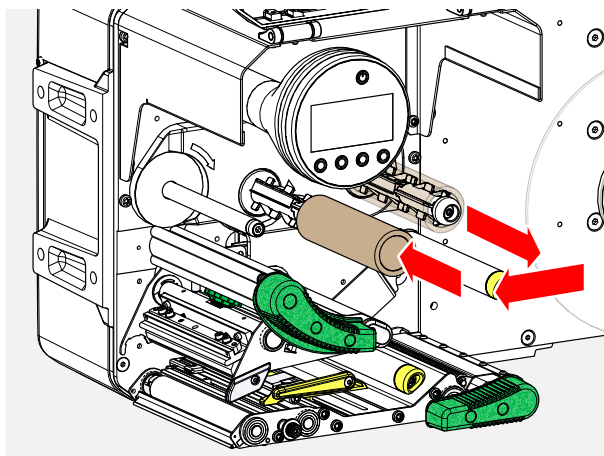
1. Open the front hood (A, figure below).



2. Open the pressure lever on the print head (B, figure above).
3. Pull the roll of used ribbon from the rewinding mandrel:



4. Remove the empty cardboard sleeve from the unwinding mandrel and push it onto the rewinding mandrel.



5. Clean the print head.

What to do next

Inserting a new ribbon roll.

Alternating use of different sorts of ribbon

Before you begin

The warning notes about inserting ribbon have been read and understood (see “**Inserting and removing ribbon**” on page 85)

About this task

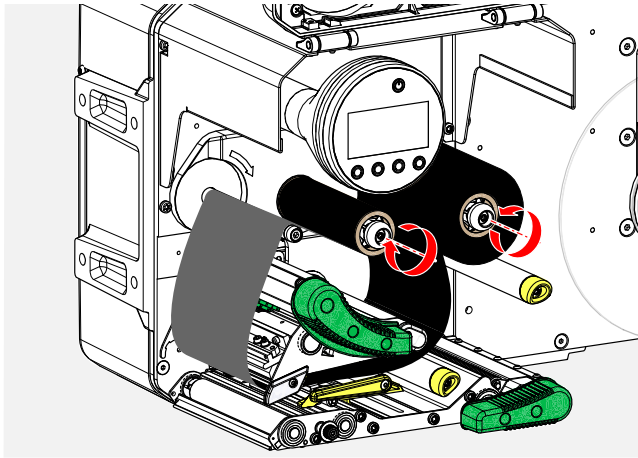
To switch between *different types of ribbons*, there is no need to cut off the ribbon each time and then insert it and fasten it to the ribbon rewinder.

Procedure

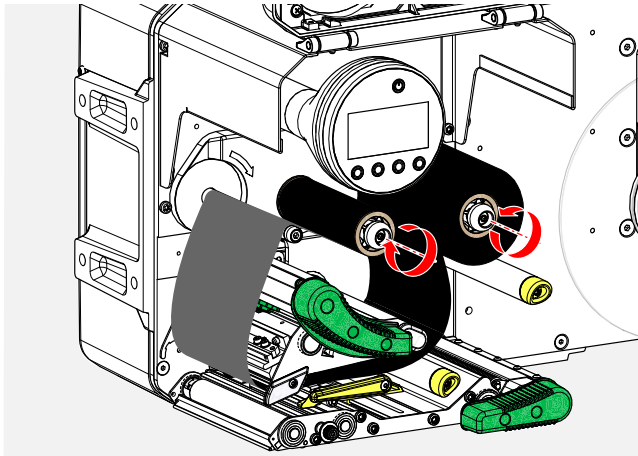
It's easier as follows:

1. Open the pressure lever.

2. Loosen the ribbon between the mandrels:



3. Remove both rolls of ribbon from the mandrels. Pull away the ribbon sideways from the print head:



 Store your frequently used ribbons as pairs of rolls.

Insert a different pair of rolls as follows:

4. Push the ribbon between the rolls sideways below the print head.
5. Push the ribbon rolls onto the mandrels and tighten the ribbon.

INSERTING AND REMOVING LABEL MATERIAL

**WARNING!**

During operation, the print head can become hot!

- ▶ Be careful when touching the print head.

**WARNING!**

Danger of injury due to moving and rapidly rotating parts.

- ▶ When working on the machine, do not wear loose jewellery, long sleeves, long hair, and similar.
- ▶ Before inserting the label roll ensure that the machine is in offline mode (Home screen).
- ▶ Close the devices cover before printing.

**WARNING!**

Danger of injury caused by falling label roll.

- ▶ Wear safety shoes.

Inserting Label Material



Video instruction “Inserting label material”.

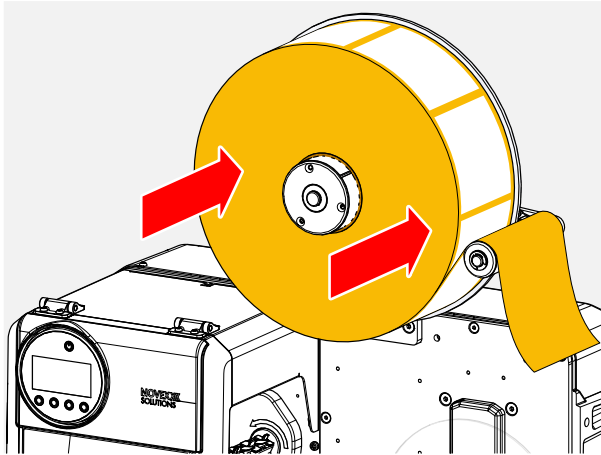
Before you begin

- Machine is stopped (“Home” screen)
- Rewound backing paper was removed
- *If the material unwinder “Pro 300” is used:* Core adapters at the material unwinder are set to match the core diameter of the label roll
- The label material is wound with the label side facing outwards (if this is not the case, please note the different threading scheme)
- The warnings for loading label material have been read and understood (see “Inserting and removing label material” on page 91)

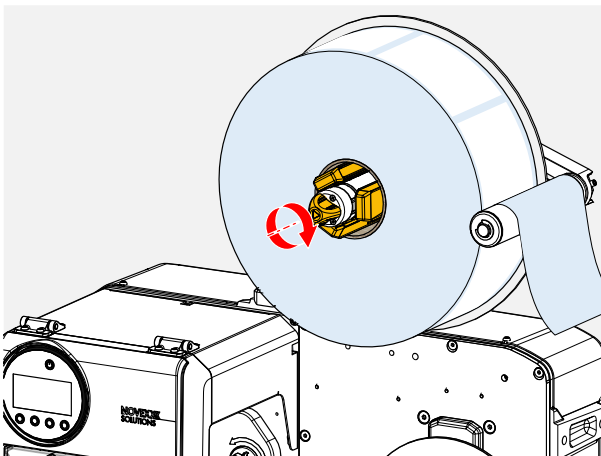
Procedure

Inserting a label roll:

1. Push the material roll onto the unwinder until it stops (fig. below).



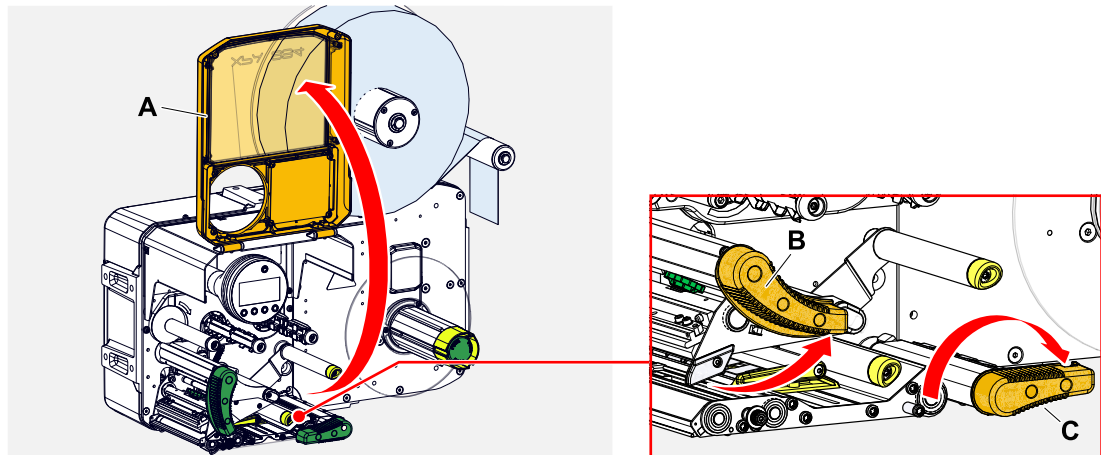
2. (Optional) (*Unwinder "Pro 300"*) Turn the handle clockwise until the roll is firmly seated:



3. Lay the label web as illustrated around the dancer arm (fig. above).
4. Peel the labels off the backing paper over a length of approx. 60 cm..

Threading the label web at the print module:

5. Open the front cover (A):

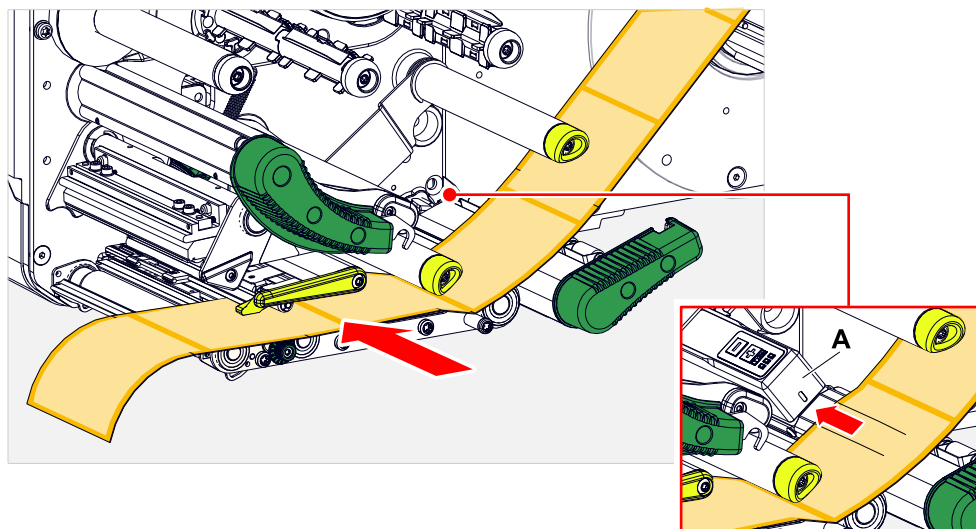


6. Open the pressure levers on print head and draw roller (fig. above, Pos. B, C).

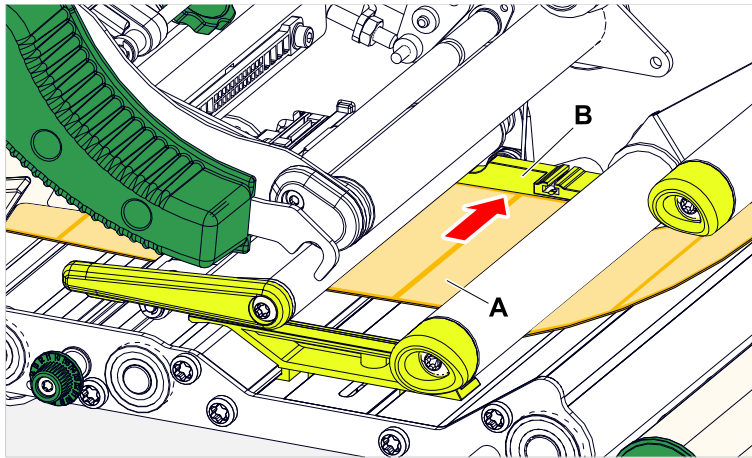
7. Push the label web sideways into the print module:

! Yellow parts mark the material path through the machine.

XPA 93x with clear label sensor: Ensure that the material web runs through the sensor fork (A).

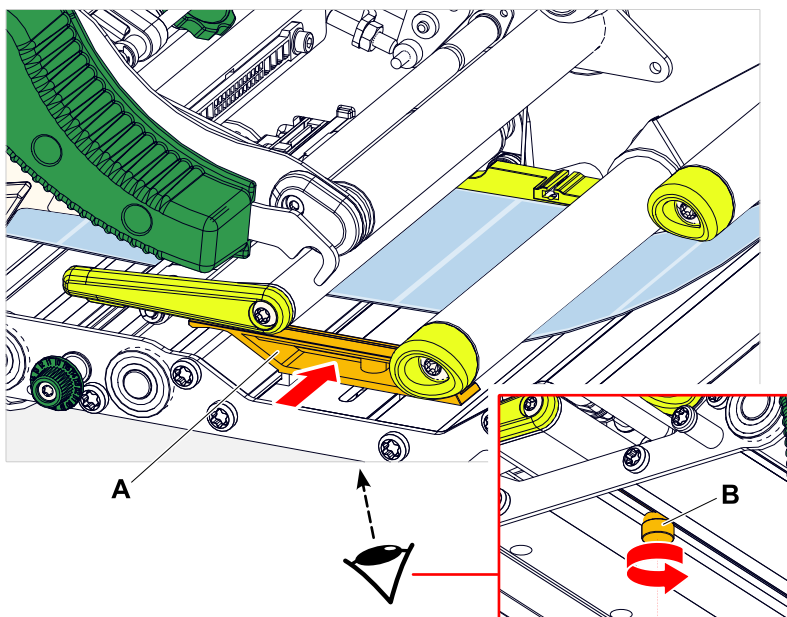


8. Push the label web (A) backwards until the material edge rests against the rear material guide (B):



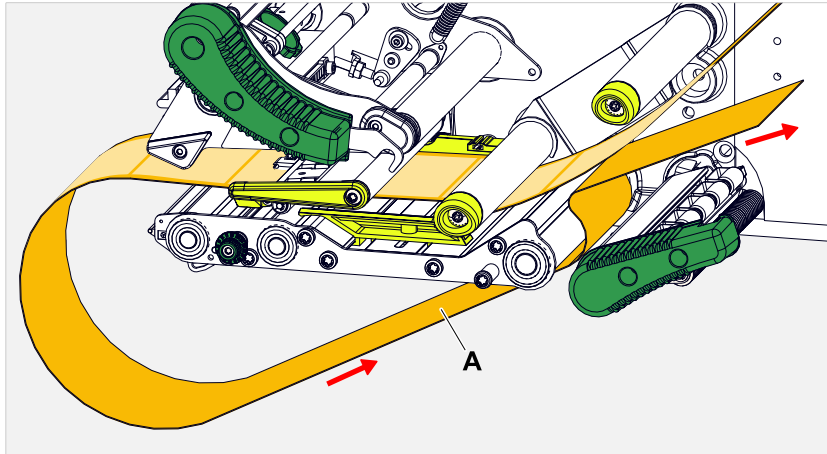
9. Loosen the knurled screw under the front material guide (A) and push the material guide up to the front material edge. Tighten the knurled screw again.

! The label material should move easily between the guides.

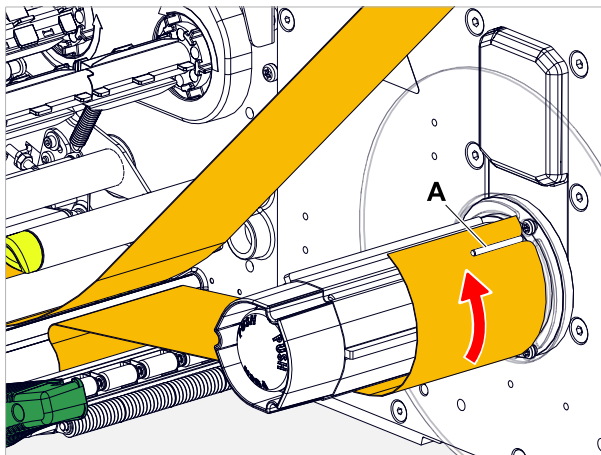


Attach the label web to the rewinder:

10. Feed the backing paper (A) back under the print module and insert it in an S-shape at the draw roller:

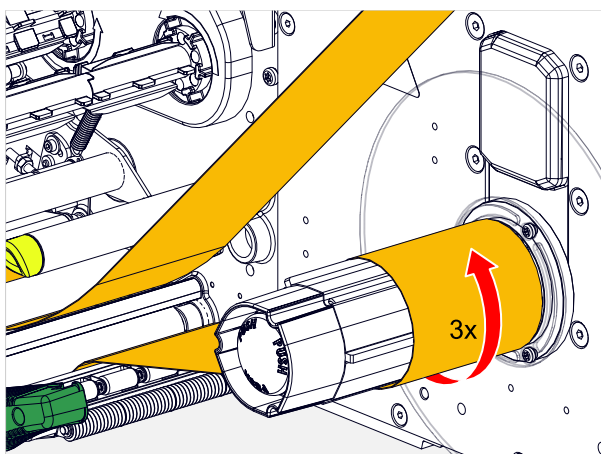


11. Place the end of the material web counterclockwise around the rewinder and push it under one of the bolts (A) at the inner edge:

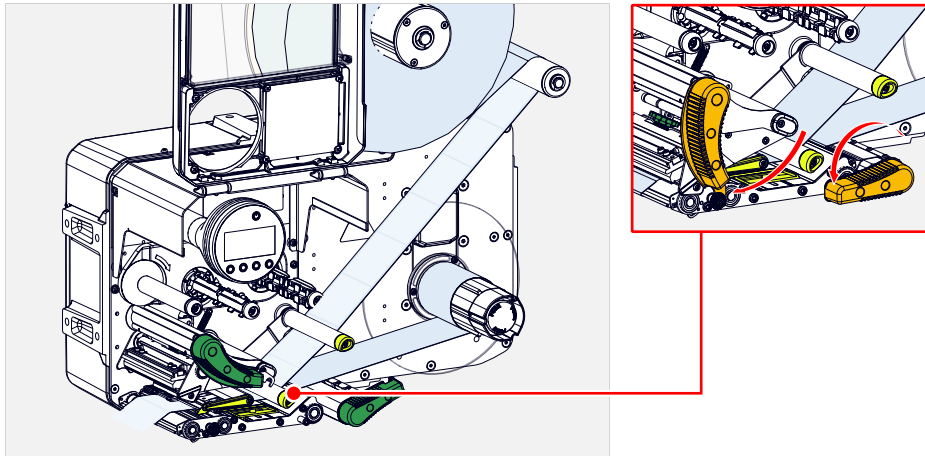


12. Turn the rewinder 3 turns counterclockwise.

! If not at least 3 turns are wound up, the backing paper may come loose again during initialization.



13. Tighten the material web and ensure that it runs correctly.
14. Close the pressure lever on the draw roller and print head:



What to do next

If necessary (thermal transfer printing) and not already done: Insert ribbon.

If the label stock is different from the one used before: Setting the label sensor.

Related tasks

[Positioning the Label Sensor](#) on page 98

[Removing Wound Up Backing Paper](#) on page 97

[Dynamic teaching of the optional clear label sensor](#) on page 99

[Static teaching of the optional clear label sensor](#) on page 101

Related reference

[Insertion Diagrams LH](#) on page 77

[Insertion Diagrams RH](#) on page 81

Removing Wound Up Backing Paper

Before you begin

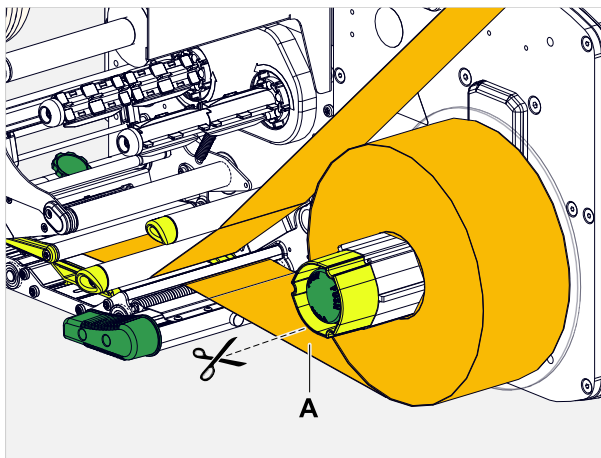
The warnings for loading label material have been read and understood (see “**Inserting and removing label material**” on page 91)

About this task

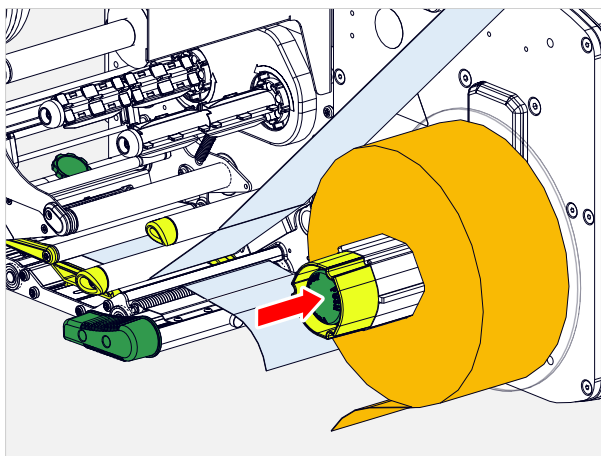
The used backing paper must also be removed each time the label roll is changed.

Procedure

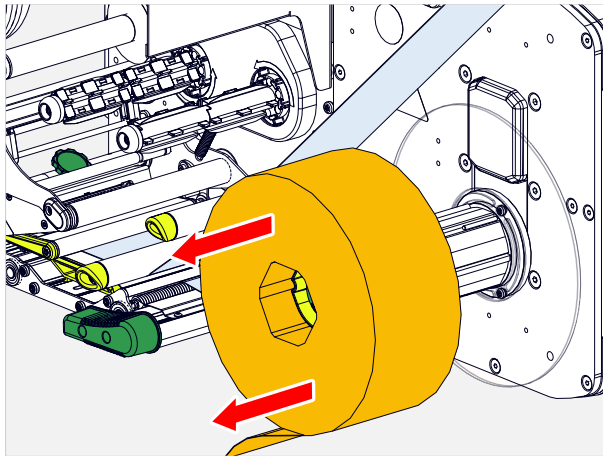
1. Cut the backing paper (A) before the rewinder:



2. Press the release button on the rewinder:



3. Pull off the coiled backing paper:



Related tasks

Inserting Label Material on page 91

SETTING AND MONITORING

Positioning the Label Sensor

About this task

Adjusting the label sensor is necessary, if

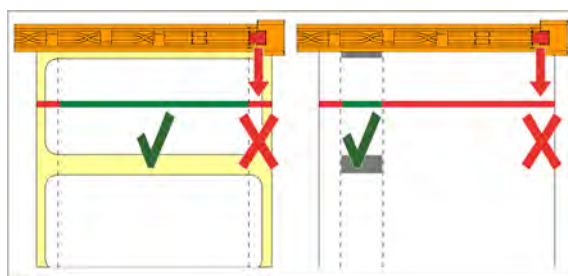
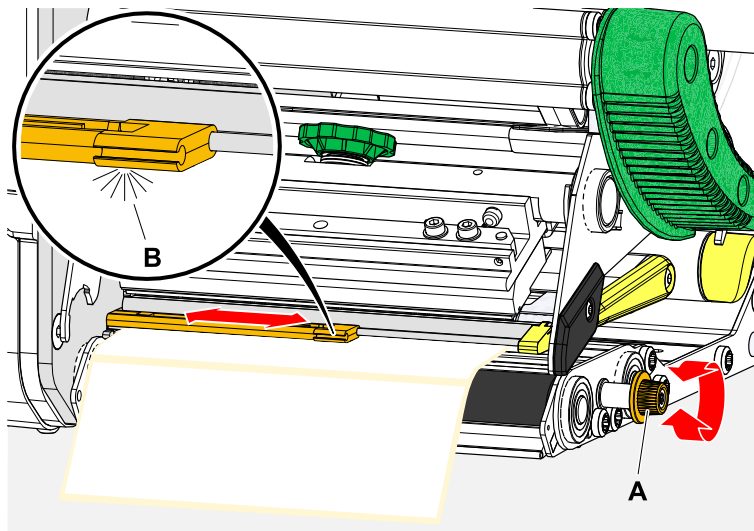
- the machine is put into operation for the first time
- a material change takes place on wider or narrower material or on material with different punching form/type

Procedure

1. Open the print head pressure lever.

2. Move the label sensor crosswise to the printing direction by turning the rotary knob (A) until the sensor (B) is centered above the gap between the labels or above the punch.

! The sensor (B) is somewhat set back at the label sensor holder.



3. Close the print head pressure lever.

Related tasks

[Inserting Label Material](#) on page 91

Dynamic teaching of the optional clear label sensor

Before you begin

Prerequisites:

- XPA 93x with integrated clear label sensor
- Firmware at least BEL-V8.0

About this task

The clear label sensor must be taught before first use and after every change of material.

! The process described here is also known as dynamic teaching. Dynamic teaching takes place over several labels and is the recommended procedure.

Procedure

1. Insert label material into the machine.

- ! Make sure,
- that the label web is slightly tensioned
 - that the label web is placed within the detection area of the sensor fork:

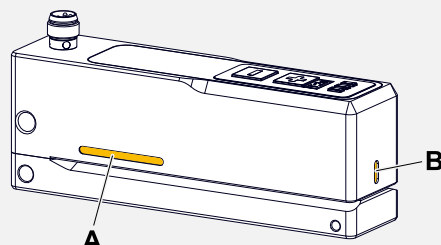
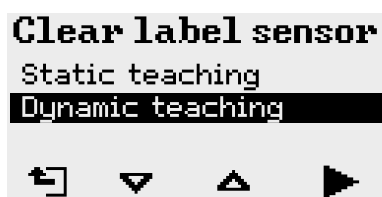


Fig. 53: Markings (A, B) of the detection area of the sensor fork.

2. Call parameter Options > Label Sensor > Clear label sensor > Dynamic teaching:



3. Press the button :
The text “Make sure that the material is inserted correctly” is displayed.
 4. Press the button  to confirm the correct position of the label web and to start teaching.
- ! Don't move the label web.
5. Hold the button  pressed.
 - The yellow LED at the sensor starts flashing fast and
 - the label web is slowly fed forward
 6. Release the button  as soon as the yellow LED stops flashing.
 - Teach process successful: yellow LED flashes twice in medium speed
 - Teach process *not* successful: red LED lights up
 7. (Teach process successful) Press the button .
 8. (Teach process *not* successful) Repeat steps 5 and 6.

- ! The red LED remains lit until the teaching was successful.

Related tasks

Inserting Label Material on page 91

Static teaching of the optional clear label sensor

Before you begin

Prerequisites:

- XPA 93x with integrated clear label sensor
- Firmware at least BEL-V8.0

About this task

The clear label sensor must be taught before first use and after every change of material.

! The process described here is also known as static teaching. Static teaching takes place at just one point on the backing material. It has the advantage over dynamic teaching that no label material is consumed. If label consumption is not important, dynamic teaching is recommended.

Procedure

1. Insert label material into the machine.

- !** Make sure,
- that the label web is slightly tensioned
 - that the backing material is placed within the detection area of the sensor fork:

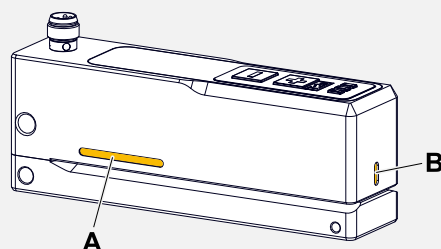
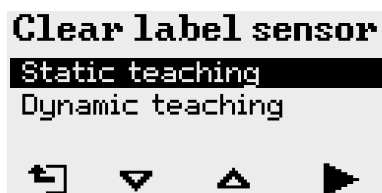


Fig. 54: Markings (A, B) of the detection area of the sensor fork.

2. Call parameter Options > Label Sensor > Clear label sensor > Static teaching:



3. Press the button :

The text “Please place web without a label near the sensor” is displayed.

 This is a request to check whether the backing material is within the detection area of the sensor fork.



4. Press the button  to confirm the correct position of the backing material and to start teaching.

 Don't move the backing material.

The teaching ends automatically after a few seconds.

Results

- Teach process successful: yellow LED flashes twice
- Teach process *not* successful: red LED lights up

What to do next

If the teach process was not successful:

- ▶ Repeat the teach process.

If the adjustment was not successful several times:

- ▶ Start the dynamic teaching.

Related tasks

[Inserting Label Material](#) on page 91

Settings in the Parameter Menu

The settings described below are generally included in the print job, in which case they do not need to be made. Manual settings that were made before a print job was transferred will be overwritten by the settings in the print job.

- **Label pitch** on page 103
- **Material width** on page 104
- **Material type** on page 104
- **Print process** on page 104
- **Temperature Compensation** on page 104

Label pitch

► Toggle to the “Home” screen.

A) *To measure label pitch automatically:*

► Press the keys 3 + 4.

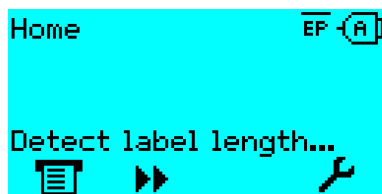


Fig. 55: The label pitch is being measured.

The printer moves the label material forward until the two label starting marks have moved through the label sensor. The label pitch determined in this way is displayed (see fig. below) and transferred to parameter Print > Material > Label > Material length. Parameter Print > Material > Label > Material type is set to “Punched”.



Fig. 56: Display of the measured label pitch.

B) *To enter the label pitch manually:*

1. Measure label pitch (C).
2. Call Print > Material > Label > Material length and enter the measured value in millimetres.

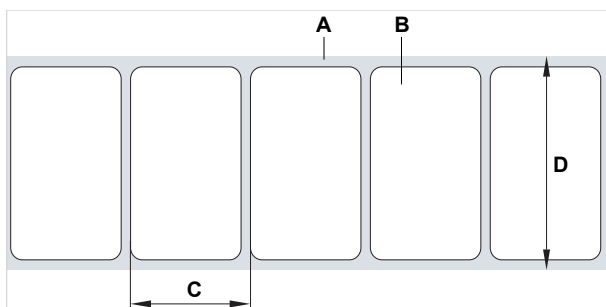


Fig. 57: Label material (self-adhesive labels) (A: Label web (backing paper), B: Label, C: Label pitch, D: Material width)

Material width

1. Measure the width of the material web (D) (including backing paper).
2. Call Print > Material > Label > Material width and enter the measured value in millimetres.

Material type

! If the automatic material length measurement function is used, the material type is automatically set to "Punched".

► Set Print > Material > Label > Material type to "Punched" or "Endless", depending on the used material.

Print process

Printing without ribbon (direct thermal):

► Print > Material > Label > Print method = "Thermal printing".

Printing with ribbon (thermal transfer):

► Print > Material > Label > Print method = "Thermo transfer".

Temperature Compensation

The print contrast is heavily dependent on the temperature of the print head. This can be set using the parameter Print > Print contrast or, during printing, after pressing key 2.

When the printer is being used for a big print job, the temperature of the print head and the print contrast increase during printing. This increase is greater, the larger the print job and the larger the amount of black to be printed.

In extreme cases, this rise in temperature can lead to smearing in fine structures when printed, e.g. barcodes arranged crosswise to the printing direction. To avoid this, the firmware constantly checks and corrects the print head temperature. The precondition for this is that the parameter System > Print Control > Temp. reduction is set to a value > 0 (Default: 20%).

! The temperature compensation is the greater, the higher the setting of the parameter System > Print Control > Temp. reduction is (see fig. below).

Parameter	Function
Print > Print contrast	Sets the print contrast, i.e. indirectly, the print head temperature (actually adjusts the driving power of the print head).

Parameter	Function
System > Print Control > Temp. reduction	Sets the correction factor for the temperature compensation. The higher the selected setting, the greater the reduction of the driving power when the print head temperature rises.

Table 15: Parameters for setting the temperature compensation.

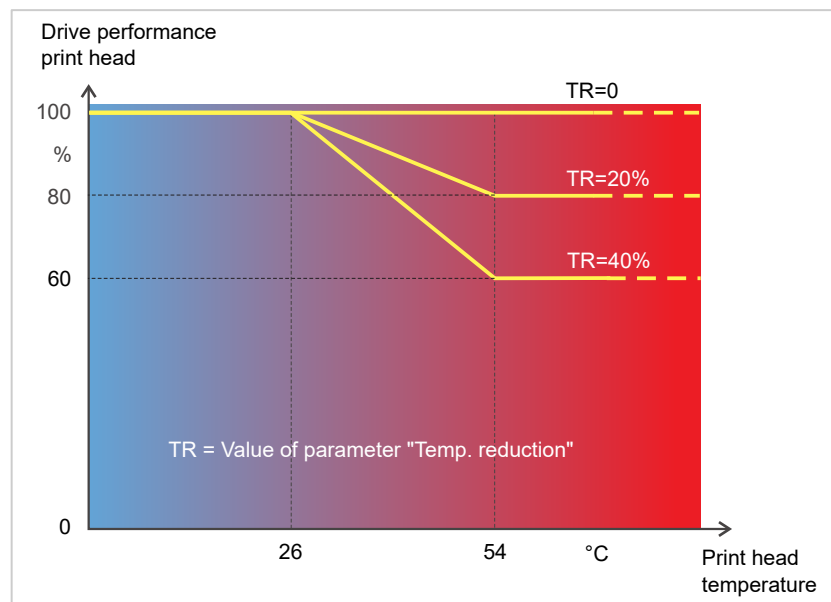


Fig. 58: With the parameter System > Print Control > Temp. reduction activated, the driving power of the print head – and therefore indirectly the print contrast – are reduced. Reduction starts at a temperature of 26°C. The maximum value is maintained at 54°C and above.

Readout example:

The printing layout contains a lot of black areas. For this reason, the temperature reduction is activated with 40%.

► System > Print Control > Temp. reduction = 40%.

Now, if the print head temperature rises above 26°C, the driving power will be reduced automatically.

Reading out the diagram results in: With a given print head temperature of approx. 40 °C, the driving power is reduced to approx. 80%; with a supposed print head temperature of 54 °C or above, it is reduced to 60%.

Monitoring functions

The following functions monitor machine operation:

- **Missing labels** on page 106
- **Ribbon reserve** on page 106
- **Ribbon end** on page 107
- **Material stock** on page 107
- **Material end** on page 108

Missing labels

Normally a missing label on the label web does not interfere with print operation. Label feed continues running until the start of a label has moved up under the label sensor again.

It may be necessary in some cases, however, to report the missing labels. When function System > Print Control > Miss. label tol. is set, an error message can be generated after one, or after several missing labels:

Status num:	5001
No gap found	

At the same time the printer stops.

Ribbon reserve

The ribbon reserve is displayed during printing as remaining length in meter (A). The first value after initialization is preceded by a "~" (B).

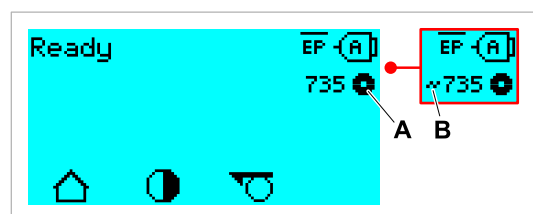


Fig. 59: Display of the remaining ribbon length (A, here: 735 m).

! The display of the ribbon reserve only begins after some rotations of the ribbon roll.

To be able to display the value of the remaining ribbon length as exact as possible, some characteristics of the ribbon roll have to be set:

- ▶ Set Print > Material > Ribbon > Ribbon length to the ribbon length in meters.
- ▶ Set Print > Material > Ribbon > Outer ribbon Ø to the outer-Ø (D) of the ribbon roll in millimeters.
- ▶ Set Print > Material > Ribbon > Inner ribbon Ø to the inner-Ø (d) of the ribbon roll in millimeters.

! Inner-Ø ribbon roll = Outer-Ø ribbon core!

The default setting matches the NOVEXX Solutions standard ribbon 10287-600-xxx.

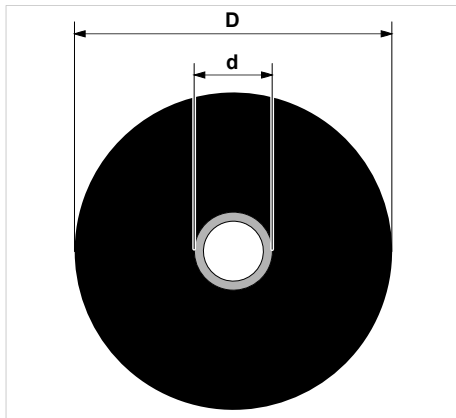


Fig. 60: Outer (D) and inner (d) diameter of the ribbon roll.

To monitor the ribbon reserve, a critical ribbon length can be set. If the remaining length falls below this level, a warning or an error message appears - depending on the setting.

- ▶ Set System > Print Control > Ribbon end warn. to the desired critical ribbon length in millimetres.
- ▶ Set System > Print Control > Ribbon warn stop to the desired behavior:
- *Off*: Printer shows ribbon warning and does *not* stop:



Fig. 61: Ribbon warning during a print job: yellow background, the ribbon icon flashes.

- *On*: Printer shows ribbon warning and shortly afterwards an error message and stops after the current label:

```
Status num: 5110
Ribbon low
```

Ribbon end

Once the end of the ribbon has been wound away and the unwinding mandrel no longer rotates, the following message will appear:

```
Status num: 5008
Ribbon end
```

- ▶ Proceed as described under .

! End-of-ribbon detection can be shut off when required, e.g. for direct thermal printing:

- ▶ To do this, set Print > Material > Label > Print method to "Thermal printing".

Material stock

To facilitate quick and smooth changing of the material roll, the machine can send an alarm to operating personnel in advance before the end of the material roll. The optional OD control (OD = outer diameter) is used for this purpose.

Depending on the configuration and setting of the machine, different behaviour occurs at material end or when a critical roll diameter is reached

- Without OD control:

Requirement: Options > Material OD Sensor > Mat. OD Sensor 1 = "Off" and Options > Material OD Sensor > Mat. OD Sensor 2 = "Off"

For details refer to chapter "Material end" (below).

- With OD control:

Prerequisites:

- OD sensor of the material unwinder is connected by means of an external cable (siehe chapter **Connections** on page 66, connection pos. G)

- Options > Material OD Sensor > Mat. OD Sensor 1 = "Rotation pulse"
optional additional (operation with 2 unwinders):

Options > Material OD Sensor > Mat. OD Sensor 2 = "Rotation pulse"

Setting:

- Warning

The parameter Options > Material OD Sensor > Materialend warn sets the OD threshold for triggering the warning. When the OD has reached the threshold value, the warning message "Material low" is displayed on the machine's control panel and the optional signal lamp lights yellow. The machine does *not* stop.

```
Material low
```

- Error status

The parameter Options > Material OD Sensor > Materialend err sets the OD threshold for triggering the error status. When the OD has reached the threshold value, the error message "Material end unw" is displayed on the machine's control panel and the optional signal lamp lights red. The machine stops.

```
Status num:: 5071  
Material end unw
```

 It is advisable to select the OD for the error message smaller than the OD for the warning, so that the warning only occurs (for a larger diameter) and the error message follows later (for a smaller diameter).

Material end

After the end of the material roll passes by the punch sensor, the following status message appears:

```
Status num: 5002  
Material end
```

► Open the pressure lever and pull the end of the material forwards out of the printer.

PRINTING

Creating Print Jobs

There are two ways to create a print job:

- Using *layout software*

Layout software may include any type of software that has a print function (for example text processing). Special label layout software is more suitable, for example NiceLabel^[40]. Prerequisite is an installed printer driver.

Find the appropriate *printer driver* and an installation instruction on our web page^[41]. The driver supports the following Windows operation systems:

Windows 7 / Windows 8 / Windows 8.1 / Windows 10 / Windows 11 / Windows Server 2008 / Windows Server 2008 R2 / Windows Server 2012 / Windows Server 2012 R2 / Windows Server 2016 / Windows Server 2019 / Windows Server 2022.

- *Coding print jobs with Easy Plug*



The label layout is described by a sequence of Easy Plug commands saved in a text file. This method requires good knowledge of the command language Easy Plug.

Transferring a Print Job from a Host by Means of Layout Software

Describes how to transfer a print job from a host using a data cable and layout software.

Before you begin

- The data interfaces of host and printer are connected with a suitable data cable
- The data interface is set accordingly in the printer's parameter menu
- Layout software and a suitable driver are installed on the host

Procedure

1. Select a suitable data interface in the layout program.
2. Open an stored label layout or create a new layout.
3. Start printing in the layout program.

⁴⁰ www.nicelabel.com

⁴¹ www.novexx.com

Transferring a Print Job from a Host by Means of a Command file

Describes how to transfer a print job from a host using a data cable and a text file containing Easy Plug commands ("command file").

Before you begin

- The data interfaces of host and printer are connected with a suitable data cable
- The data interface is set accordingly in the printer's parameter menu

Procedure

1. At the host: open the Windows command prompt window.
2. Open the folder that contains the command file.
3. (Optional) Serial interface: `copy testjob.txt com1`

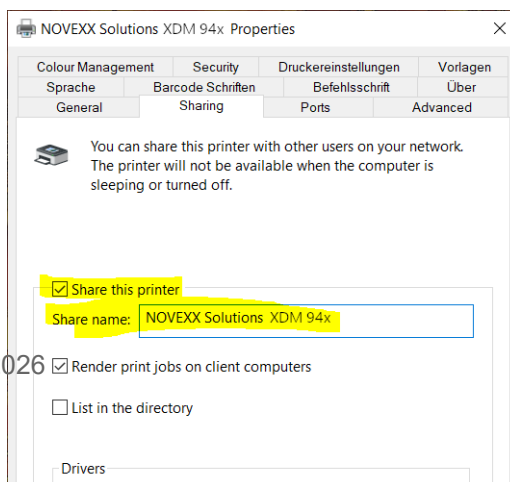
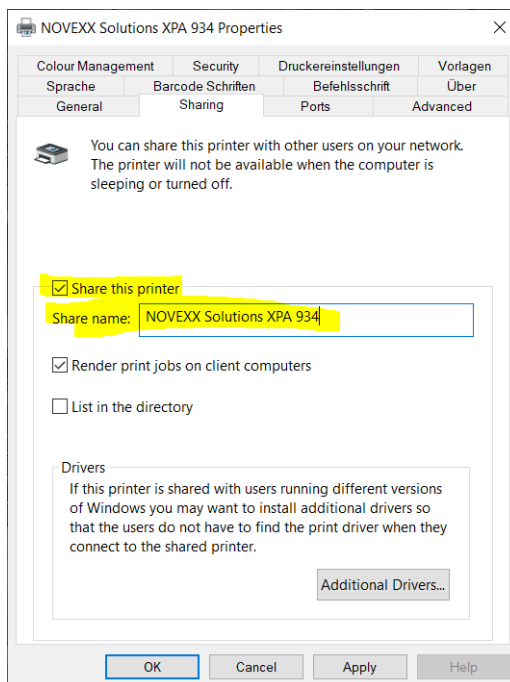
4. (Optional) Ethernet/USB interface: `copy testjob.txt \\ComputerName\ShareName`

– *ComputerName*: can be found under Windows 10 as follows:

- Press the  key. The start menu opens.
- Type “System Information” into the search field. The window “System Informations” opens.
- In the right part of the window, seek the entry “System Name”. The string right of it is the Computer Name.

– *ShareName* represents the share name for a printer connected to a specific port, such as the USB port or the TCP/IP port. Enter the ShareName as follows:

- Press the  key. The start menu opens.
- Type “Printers & scanners”. Acknowledge with the Enter key. The window “Settings > Printers & scanners” opens.
- Click on the desired printer name.
- Click “Manage”.
- Click “Printer properties”.
- Open the “Sharing” tab (fig. below).
- Enter a name into the field “Share name” and check “Share this printer”.
- Click “OK”.



Starting a Print Job from an External Memory Medium

Before you begin

- The print job is stored on an external storage medium (e. g. USB thumb drive) in folder \Formats.
- The name of the print job file ends with .for
- Drive letter C : must be assigned to the storage medium (that is, Interface > Drives > Drive C must be set to that storage medium on which the file with the print job is stored, that is “USB1” or “USB2”)

Procedure

1. Switch off the printer.
2. Connect the memory medium to the printer.
3. Switch on the printer.
The printer shows the “Ready” screen (cyan).
4. Press the keys 2+4 to switch to standalone mode.
A file selection dialog for memory media appears:

! If an external storage medium is not displayed: Press key 1. This updates the list.



5. Select a memory medium and confirm the selection.
A file selection dialog appears, which shows the printjobs stored on the selected memory medium:



6. Select a print job with the keys 2 and 3. Press key 4 to load the print job.
Another selection dialog appears. It offers to change the print amount, which is initially defined in the print job (fig. left). Depending on the print job, there can be more input fields (fig. right).

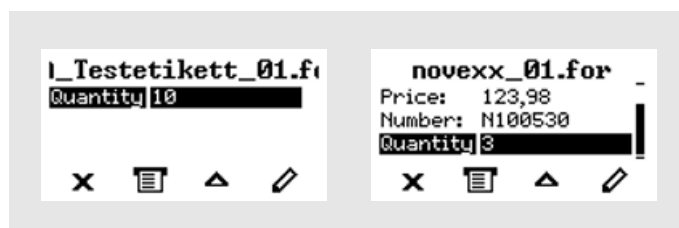


Fig. 63: File selection in standalone mode (left: standard field for querying the print amount; right: additional data input fields)

7. Press key 2 to start the print job without changing the print amount.

! To change the print amount or other input fields, see figure below.

If the printer showed the "Ready" screen before it was toggled into standalone mode, the printing starts immediately.

8. Press the keys 2+4 to toggle to the "Ready" screen.

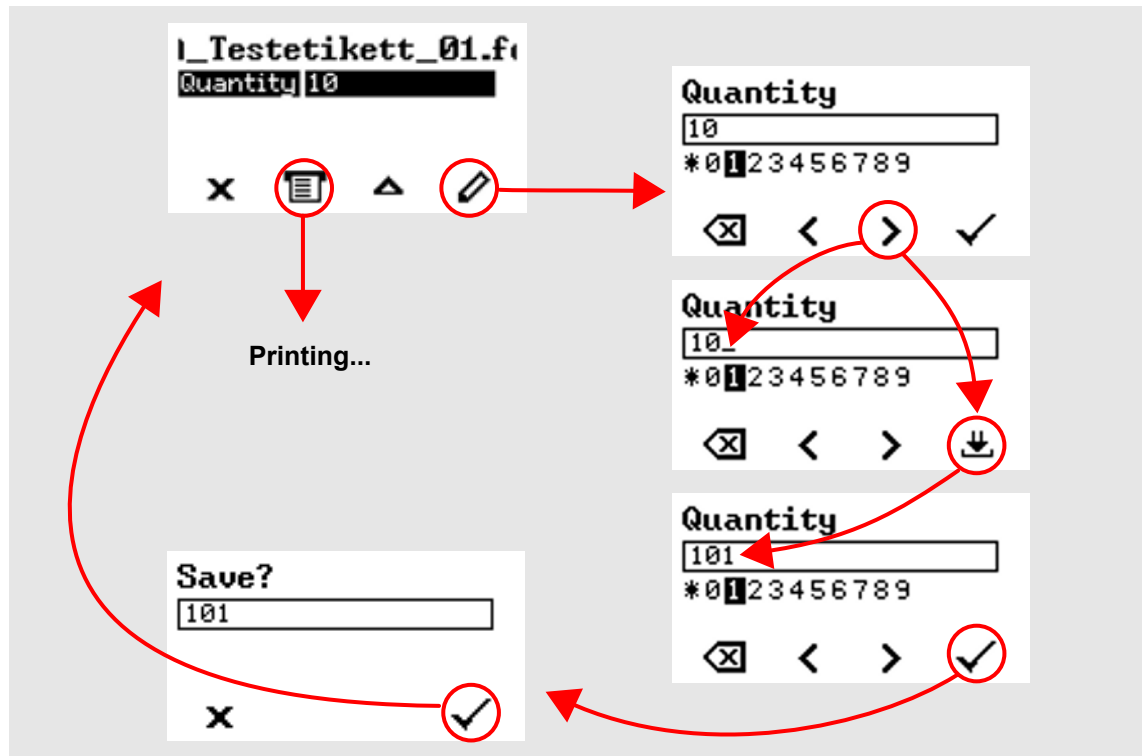


Fig. 64: Changing the print amount in standalone mode.

Starting and Monitoring a Print Job

! The illustrations in this chapter show the control panel on an XDM 94x. The icon  is not present on an XPM 94x.

The printer starts to print, as soon as the following conditions are met:

- The printer is switched on
- The display shows the “Ready” screen
- A print job has been transmitted and interpreted
- The label sensor has detected the start of a label

! This is the case at the earliest after 10 cm of material has been advanced, as these 10 cm are used by the control unit exclusively to calculate the diameter of the ribbon rolls. This means that if the start of a label has already passed the label sensor, it is ignored.

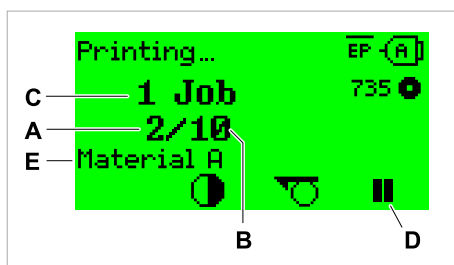


Fig. 65: Display during the printing (A: Already printed labels of the current print job, B: Labels to be printed of the current print job, C: Amount of queued printjobs, D: Pause key, stops the printing).

If the printer shows the “Home” screen:

- ▶ Press the  key, to toggle to the “Ready” screen, to start printing.

Display examples:



Fig. 66: Print job with endless print amount.

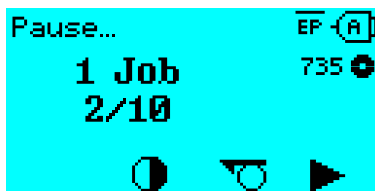


Fig. 67: Stopped print job. Press key 4 to continue printing.

STANDALONE OPERATION

Requirements and Functions

Requirements

- *External memory medium* (USB thumb drive)
- *Computer*, to write on the memory medium
- (Optional) *Keyboard*, simplifies entry of variable data (see chapter **Functions with external keyboard** on page 117)

Functional Description

Standalone operation means the printer can be operated without it needing to be connected to a host computer. For this purpose, a computer is used to store the print job on a memory medium. After the memory medium is connected to the printer, the operator can start the print jobs on demand. For this, he uses the printer control panel or a keyboard connected to the printer. Variable data can also be entered via the control panel or the external keyboard.

The standalone mode can always be accessed from the „normal“ printer operation.

► Press the keys 2+4 simultaneously.

It is helpful to imagine two consoles, between which can be switched by pressing the keys 2+4.

Console „Normal operation“		Console „Standalone operation“
„Ready“ screen	Keys 2 + 4	Selecting print jobs
„Home“ screen		Inserting field contents
Message mode		Inserting print amounts
„Settings“ screen		Starting print jobs
		Error messages are faded in

Table 16: Functions and display texts in normal and in standalone operation mode.

Standalone operation in brief:

- Printing without computer connection
- Data entry via control panel or keyboard
- Reading print job from an external memory medium
- Entry or selection of field content
- Updating Firmware from an external memory medium

Selecting Files from an External Memory Medium

Before you begin

- The file is stored on an external memory medium (e. g. USB thumb drive) in folder \FORMATS
- The file has one of the extensions .for (print job or setup file) or .tar (firmware)

- Drive letter **C :** must be assigned to the storage medium (that is, Print interface > Drives > Drive C must be set to that storage medium on which the file with the print job is stored).

Procedure

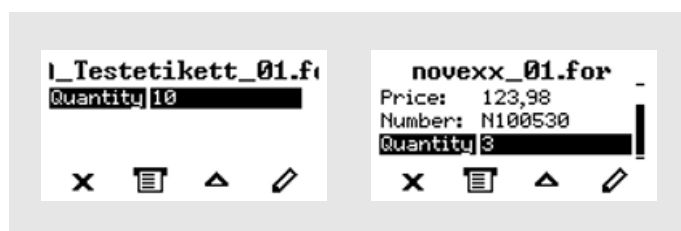
1. Switch off the printer.
2. Connect the memory medium to the printer.
3. Switch on the printer.
The printer shows the "Ready" screen (cyan)
4. Press the keys 2+4 to switch to standalone mode.
A file selection dialog for memory media appears:



5. Select a memory medium and confirm the selection.
A file selection dialog appears, which shows the printjobs stored on the selected memory medium:



6. Select a print job with key 2 and 3. Press key 4 to load the print job.
Another selection dialog appears. As a standard, the print amount can be changed, which is defined as default in the print job (fig. left). Depending on the print job, there can be more than one input fields (fig. right).



7. Press key 2 to start the print job without changing the amount.

! For change of the print amount or of other input values, see fig. below.
If the printer showed the "Ready" screen before switching into standalone mode, the printing starts immediately.

8. Press keys 2+4 to switch to the "Ready" screen.

Functions with external keyboard

Suitable keyboards

Keyboards with USB connection are suitable.

! Before first use, check if the intended keyboard really works with the printer.

The matching keyboard layout is set with parameter *Options > Keyboard*.

Key assignment

The keys on the operation panel are assigned to function keys on the external keyboard according to the table below. The function keys and the two additionally listed key combinations work in normal operating mode *and* in standalone mode.

Keyboard key(s)	Printer key	Function
	1	Depends on context
	2	
	3	
	4	
	none	Delete the current print job
	2 + 4	Toggle between normal and standalone mode

Table 17: Assignment of operation panel keys to keyboard keys

The following keys and key combinations on the external keyboard work only in standalone mode:

Keyboard key	Function
	Delete the character left of the cursor
	Confirm a modification
	Discard a modification
	Move the cursor to the left
	Move the cursor to the right
	Insert the selected character into the string
	Jump to the beginning (e. g. of a selection list)
	Jump to the end (e. g. of a selection list)

Quick selection

If an external keyboard is connected, files can be selected from a list by typing in the first letter of the file name.

Example:

After changing to the standalone mode and selecting the memory medium, the following is displayed:



A file named `novexx.for` is supposed to be started.

1. On the keyboard, press the key for the first letter of the wanted file name , e. g. „n“. Display:



The filter icon  stands for the activated filter function. Through the filter appear only those file names that start with „n“ (see fig. above). If another character is typed in, e. g. „o“, only file names that start with „no“ are listed (see fig. below).



 The filter is case sensitive!

Deactivating the filter: press the Esc or Backspace key.

2. Press the enter key (or F8) to select the file.

Executing Different File Types

Executing print jobs

Files with the extension `.FOR` are interpreted as print jobs.

All input fields are polled, which are defined as such in the print job. Next, the print quantity is requested. As soon as the print quantity is confirmed, the print job is executed. From now on, all information about the job is displayed in the “Normal operation” console. While the print job is processed, it is started newly in the “Standalone operation” console. The input fields are polled again, with the previous entries as default.

 Each print job file may contain *only one* print job. If any print job file contains more than one printjobs, only the first print job is executed.

The new start of the print job can be avoided by setting the parameter System > Print > Single-job mode = “Off”.

It's also possible to enter a single “*” for the print quantity. This makes the print quantity “endless”.

Executing firmware files

Files with the extension `.tar` are interpreted as printjobs.



Selecting a firmware file means starting a firmware download. As this is a fundamental intervention to the system, firmware files are not executed immediately.

⁴² All letters lower case or all upper case; „Default.for“ doesn't work

Automatic file execution

If a file named `DEFAULT.FOR`^[42] exists on the memory medium in the folder `\FORMATS`, it is executed automatically at system start.



If a file `\AUTOSTRT.FOR`^[43] is also existing in the root directory, it will be executed first. But be aware that stand-alone print jobs are only executed properly, if the relevant file is stored in the folder `\FORMATS`, as described above.

⁴² All letters lower case or all upper case; „Default.for“ doesn't work

⁴³ Not case-sensitive

Disturbances

DISPLAY OF STATUS MESSAGES

During operation, tests are continually carried out to determine whether a malfunction has occurred. If a malfunction is detected, the corresponding status report appears on the display.

The status report shown on the display is structured as follows:

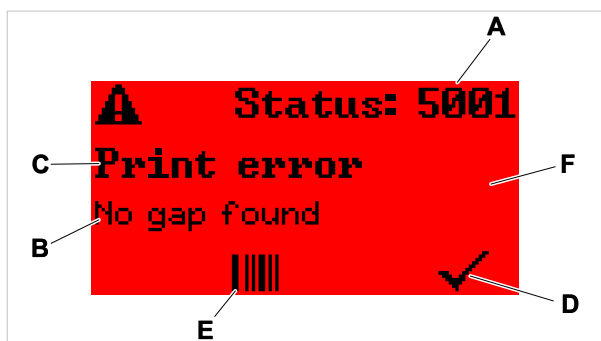


Fig. 68: Example of a status message

A	Status number The status number can be used to find a description of the error that occurred in the chapter Reference of status reports on page 126: In the example it is the message 5001 No gap found on page 126.
B	Status text Each status number has a status text in the language of the control panel.
C	Category Possible categories include among others "print error" and "format error".
D	Check mark icon Press the key below the symbol to confirm the status message. If this symbol is missing, the machine must be restarted.
E	Bar code icon After pressing the key below the symbol, a QR code is displayed that refers to a quick troubleshooting guide (see chapter Access troubleshooting instructions with your smartphone on page 125).
F	Background color Possible background colors are: Red (error) and yellow (warning)

TYPES OF STATUS MESSAGES

Error messages

Error messages must be acknowledged by the operator as the triggering event or fault endangers normal operation.

Blocking error messages are messages that occur as a result of serious errors. The message cannot simply be acknowledged by tapping on "Acknowledge". The error state can only be terminated by a "restart" (press keys 1+2+3) or by switching off the printer.

Warnings

Background color = yellow

Warnings inform the operator about the occurrence of a certain event at the printer. The message is only displayed for a short time. The printer continues operating without intervention from the user.



Fig. 69: Example of a warning

There are also warnings that appear as an additional line of text on the display “Ready” (picture).



Fig. 70: Example of an USI warning: “Productstartwarn” .

Warning text	Cause
Print ctrl. stop	<i>Druckersteuerung</i> ist gestoppt. Der Drucker funktioniert nicht richtig.
Print ctrl. limited operation	Die Funktion der <i>Druckersteuerung</i> ist eingeschränkt. Eine Fehlermeldung für einen Teil der Druckersteuerung wurde 3mal bestätigt, ohne den Fehler zu beheben. In Frage kommen die Steuerungsteile für Druckkopf, Messer, Materialaufwickler oder Folien-transport (jeweils falls vorhanden).
OD sensor warn.	<i>External OD control</i> : The material roll diameter has reached the threshold value.
Material low	<i>Internal OD control</i> : The material roll diameter has reached the threshold value.
Productstartwarn	A new start signal has arrived during the previous print-dispensing process
APSF speed warn.	Die Geschwindigkeit des Transportbandes übersteigt die maximale Druckgeschwindigkeit.
Initializing...	Indicates an ongoing initialization process (e.g. of the backing paper rewinder) Also refer to error 9036 Initializing... on page 130

Table 18: Warnings with an additional line of text in the display “Ready”.

If several warnings occur simultaneously, they are saved in a queue.

Acknowledging warnings in the display “Ready”:

- Press keys 2+3.

Special case *ribbon warning*: No text is displayed, but the ribbon symbol flashes.



Fig. 71: Ribbon warning during a print job: The background is yellow, the ribbon icon flashes.

For further information refer to chapter **Ribbon reserve** on page 106.

USI status messages

These status messages are triggered by the signal interface. They provide information on whether certain signals are present.



Fig. 72: Example of a USI status message .

Status message	Cause
USI pause	Signal <code>usi.pause</code> is active
USI feed	Signal <code>usi.feed</code> is active

Table 19: These USI status messages may occur.

USI status messages are only shown in the “Ready” display.

USI status messages may occur at the same time as USI status messages (see above). If this happens, warnings are displayed with priority.

General software errors

Errors in the firmware can never be completely ruled out. Such errors are described in the error directory as “General software errors”. They can only be corrected by the manufacturer.

► Switch the printer off and, after 30 seconds, on again. If the fault repeatedly occurs, please contact our technical service.

Easy Plug errors

Errors in the Easy Plug code can be detected much easier with the following setting:

Printer Language > EasyPlug Setting > EasyPlug errors = “Strict handling”

The Easy Plug command, which caused the error, is displayed after approx. 2 seconds in the lower display line. The displayed text is up to 30 characters long and is scrolled automatically.

If a single character caused the error, this character is marked with “>> <<” in the display text, to facilitate the detection.

By pressing the  key, the display can be toggled between error message and Easy Plug command text.

Unspecific errors

Some errors can have more than one cause. To be able to find the specific reason for such an error, it is important that it can be reproduced.

► Send the following items of information as complete as possible to the manufacturer – preferably as files:

- Layout and/or print job, which makes the status message appear
 - Parameter configuration of the printer, when the error occurs
 - Log file of the print job until the error occurs
- Use parameter Tools > Diagnostic > Store Parameters, to save the current parameter configuration.
- Use parameter Tools > Diagnostic > EasyPlug Monitor, to send the received Easy Plug data to a serial interface. Alternatively, with some printer types, log files of the print job can be saved on an external memory medium (Tools > Diagnostic > EasyPI. file log).

Our Technical Support will try hard to find a solution by reproducing the situation which caused the error.

Not listed status reports



The messages not listed in the following reference concern malfunctions that cannot be rectified by the operating personnel.

- Call a service technician.

ACCESS TROUBLESHOOTING INSTRUCTIONS WITH YOUR SMARTPHONE

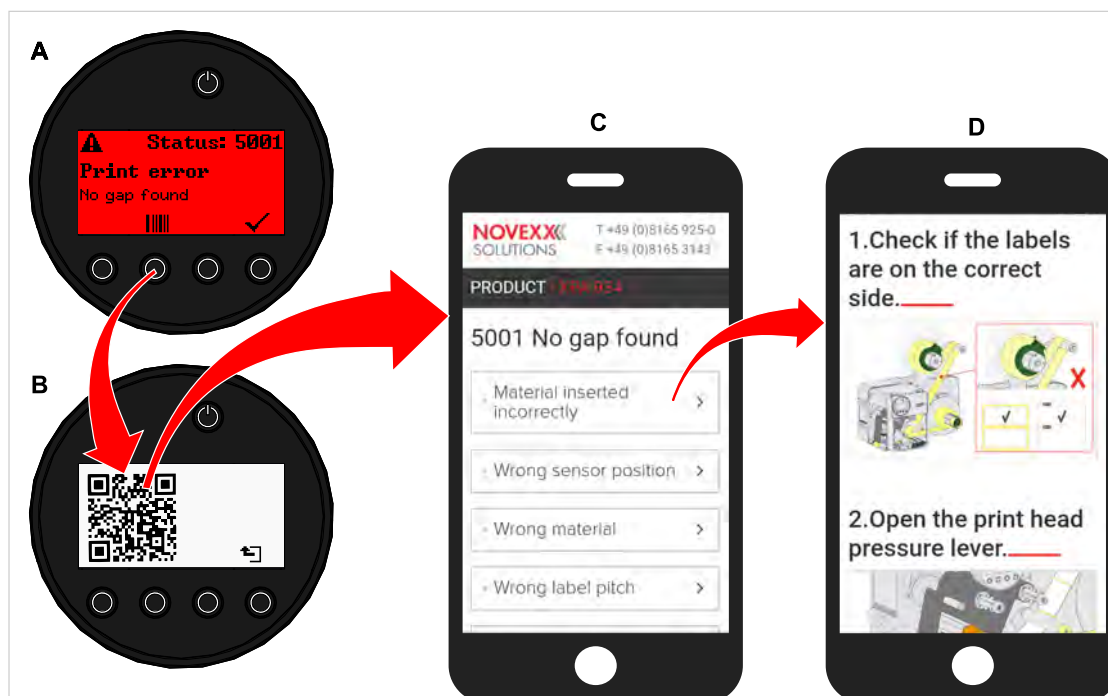


Fig. 73: If the error message has a barcode symbol (A), a QR code (B) can be used to call up troubleshooting instructions (C) on the smartphone.

! This function is currently only available for the most important error messages relevant to the machine operator. Further descriptions will follow with future firmware versions.

Procedure

1. Press the key below the barcode symbol. (A).
A QR code is displayed. (B).
2. Scan the QR code with the smartphone.
A webpage with one or more troubleshooting instructions appears on your phone (C).

! If several error solutions are displayed, they are sorted by relevance, i.e. the solution for the most probable error is at the top.

For the time being, only English texts are displayed. Future firmware versions will also support other languages.

3. Touch one of the fault solutions.
A troubleshooting guide is displayed.

REFERENCE OF STATUS REPORTS

5001 No gap found

No gap found or several blank labels fed.



Illustrated description for troubleshooting:
Click [here](#) or scan the QR code:



The error can have several causes:

Cause	Measure
Label sensor at the wrong position.	► Setting the position of the label light barrier correctly (refer to user manual, chap. „Operation“ > „Setting and Monitoring“ > „Positioning the label sensor“).
Unsuitable material inserted. No punch available or recognizable.	► Use punched or die cut label material.
Material incorrectly inserted. Punch on the wrong side.	► Insert material the right way round.
Wrong label length set.	 ► Checking the punch definition in the print job (Easy Plug: #IM). ► Checking the label length setting in the parameter menu (Print > Material > Label > Material type)
Label sensor is dirty.	► Cleaning the label sensor.
Ribbon inserted incorrectly. Ribbon runs under the label light barrier.	► Insert ribbon correctly.
Label sensor is not sensitive enough.	 ► Check the sensitivity setting of the label sensor.
Label sensor is defective.	 ► Replacing the label sensor.

After acknowledgement with key 4, the material is automatically advanced and the next punch is searched for.

5002 Material end

There is no label web in the rear material guide that contains the material end sensor.



Illustrated description for troubleshooting:
Click [here](#) or scan the QR code:



Possible causes	Solution
The label material is finished, i.e. the rear end of the material web has reached the yellow material guide in the printing module	► Load new roll of label stock
The label web runs outside of the rear material guide, which contains the material end sensor	► Insert the label material correctly into the material guide. Check the width adjustment of the material guides.

5008 Ribbon end

The ribbon roll on the unwinding mandrel is used up. Depending on the type of ribbon roll, the end of the ribbon is fixed to the cardboard core (unwinding mandrel is blocked) or not (corresponds to a ribbon tear - the unwinding mandrel can rotate). For the firmware to reliably detect the “ribbon end” case, the roll diameter must also be less than 38 mm ($\varnothing > 38$ mm --> See error **5314 Ribbon tear** on page 129).

- Insert a new ribbon roll.

5063 Press roll

The press roll lever is not closed. Opening the lever causes the immediate deletion of all potentially queued status messages (e. g. ribbon end) and display of the “Press roll” message. Closing the lever automatically acknowledges the status message.



Illustrated description for troubleshooting:
Click [here](#) or scan the QR code:



- Close the press roll pressure lever as far as it will go.



A certain resistance must be overcome until the lever snaps in.

5071 Material end unw

Occurs during operation with activated internal OD control. The message appears, if the material roll diameter has reached the critical value (settable by Options > Material OD Sensor > Materialend error).

- Replenish the material roll.

5072 Material end unw

Occurs during operation with activated internal OD control. The message appears, if no rotation of the material roll has been registered during at least 600 mm of material feeding.

- Check the material feeding; if necessary, replenish the material roll.

5074 Print module open

The print head pressure lever is not (completely) closed.



Illustrated description for troubleshooting:
Click [here](#) or scan the QR code:



- Close the print head pressure lever as far as it will go.



A certain resistance must be overcome until the lever snaps in.

5110 Ribbon low

The diameter of the ribbon roll fell below the set warning diameter (see System > Print Control > Ribbon end warn.).

The message is triggered by the occurrence of a ribbon warning if the following setting is active at the same time: System > Print Control > Ribbon warn stop = "On".

- Acknowledge by pressing the key, then press the key to continue printing.

5140 Rewinder control

The (backing paper) rewinder rotates against expectation.

Possible cause	Solution
• No backing paper attached to the rewinder • End of backing paper not properly attached	► Insert material correctly
Backing paper is sagging in front of the rewinder to such an extent that it cannot be tensioned by the rewinder within 10 seconds	► Insert material correctly ► Turn the rewinder by hand until the backing paper is taut
Backing paper tear during printing	► Reattach the backing paper to the rewinder

5145 Rewinder full

The rewound backing paper has reached the maximum admissible diameter.

- Empty the rewinder.

5302 Ribbon movement

Movement error in connection with ribbon winding or ribbon unwinding, i.e. at least one of the ribbon mandrels does not rotate correctly or not at all.



Occurs when the length of the wound ribbon does not correspond to the length of the ribbon transported by the ribbon roller. This is an indication, for example, that the ribbon is wrapping around the ribbon roller (which it should not do).

Possible cause	Solution
Ribbon not inserted correctly	► Check the ribbon run. If necessary, insert ribbon correctly.
Parameter for the color side of the ribbon not set correctly	► Set parameter Print > Material > Ribbon > Color Side correctly

Possible cause	Solution
Operation of the machine as a dispenser without ribbon inserted. It was forgotten to set the printing process to thermal printing, therefore the foil control tries to tension the foil, which leads to the error.	► Set parameter Print > Material > Label > Print method to "Thermal printing".

5311 Remove ribbon!

The error occurs when thermal direct printing is set as the printing method but ribbon is inserted.

- Remove the thermal transfer ribbon from the machine.

5314 Ribbon tear

In general, the ribbon unwinding mandrel maintains the ribbon tension by trying to rotate the roll against the unwinding direction. If the unwinding mandrel can rotate freely all at once, it can be assumed that the film is torn or missing. To better distinguish this case from fault 5008, the roll diameter must also be more than 38 mm.

Possible causes	Solution
Ribbon is torn.	► Insert the ribbon newly.
No ribbon is inserted because the insertion was forgotten.	► Insert ribbon.
No ribbon is inserted because printing is to be done in direct thermal mode. You have forgotten to switch to direct thermal mode.	► Set parameter Print > Material > Label > Print method to "Thermal printing".
Ribbon roll is loosely seated on the unwinding mandrel.	► Check that the core of the ribbon roll has the correct inner diameter. If not, use another ribbon roll with a suitable diameter. ► Check that the core of the ribbon roll is seated on the ribbon mandrel without slipping. If not:  ► Adjust the spring plates on the ribbon unwinding mandrel so that the ribbon core is firmly seated.  ► (Alternatively) Replace the ribbon core adapters.

5315 Ribbon Diameter

Occurs during the initialization of the ribbon if the diameter of the ribbon roll calculated by the machine does not match the set ribbon roll parameters.

- Check and, if necessary, correct the settings of the following ribbon parameters:

- **Ribbon length** on page 61
- **Outer ribbon Ø** on page 62
- **Inner ribbon Ø** on page 62

6033 Print Head not supp.

(Print head is not supported)

The selected or detected print head is not supported for this machine.

- Install the appropriate print head.

6034 Printhead NTC error

Error at the NTC sensor of the print head. The print head is missing or defective.

- Install or replace the print head.

6036 Print Head not authenticated

A foreign, unauthorized print head was detected (print head is not from NOVEXX Solutions).

- Replace print head with a print head from NOVEXX Solutions.

6037 Print Head not programmed

The print head has an unprogrammed crypto chip.

- Have the crypto chip programmed or replace the print head with a print head with programmed crypto chip.

9028 System Exception

General software error

- Please read the notes in section **General software errors** on page 123.

9036 Initializing...

During an initialization process (**Initializing...** warning active), one of the following functions was triggered:

Ready view:

- Funktion "Detect label length"

Home view:

- Key 
- Key 
- Keys 1+2
- Keys 2+3
- Keys 1+3

The error message is self-confirming.

9038 No gap found

The automatic calibration of the label pitch (keys 3 + 4) failed because no punch was detected after 500 mm feed.

If the label distance is greater than 500 mm:

- ▶ Enter label pitch value manually in the parameter menu.

If the label pitch is less than 500 mm (punch was not detected):

- ▶ Check function/setting of label sensor, see description of measures for error **5001 No gap found** on page 126.

Cleaning

CLEANING INSTRUCTIONS

**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 pull out the mains power connecting line!
- ▶ 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!

 The following cleaning instructions all refer to the XDM 94x, but apply equally for the XPM 94x.

Cleaning agents

CAUTION!

Sharp cleaning materials may damage the printer.

- ▶ Do not use any cleaning agents or materials that could damage or destroy the paint finish, labelling, display, 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!

Part to be cleaned	Cleaning agent	Article no.
Print head	Cleaning pen	95327
	Methylated spirit, isopropyl alcohol, white gas for cleaning purposes	--
Rubber rollers (print roller, draw roller, ...)	Roller cleaner (Recommended product: Roller cleaner from TGW, available online at https://www.typ-tgw.com/reinigungsprodukte/)	--
Deflection rollers	Methylated spirit, isopropyl alcohol, white gas for cleaning purposes	--
	Label release spray	A103198
Housing	Standard commercial neutral cleaning agent, methylated spirit, isopropyl alcohol	--

Table 20: Recommended cleaning agents

Cleaning interval

- ▶ Clean machine regularly.

The frequency depends on the following factors:

- Operating conditions
- Daily operating duration
- Label material/ribbon combination used

General cleaning

Dust particles are especially likely to accumulate in the area of the print mechanics.

- ▶ Remove dust particles with a soft brush or a vacuum cleaner.
- ▶ Clean the housing with a cloth and a standard commercial neutral cleaner.

CLEANING THE PRINT HEAD

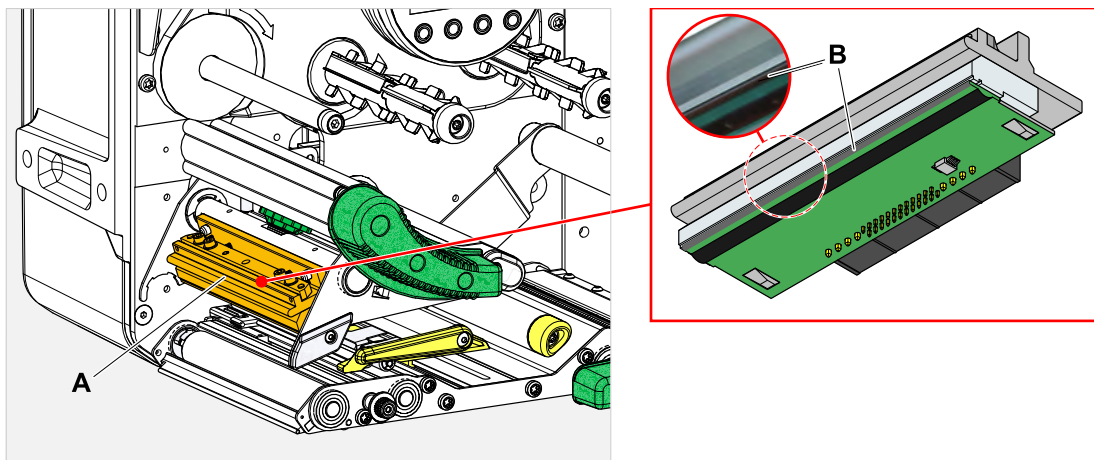


Fig. 74: **A:** Print head, **B:** Thermal strip at the print head



WARNING!

Burn hazard. The print head becomes hot during operation.

- ▶ Allow print head to cool before touching.
- ▶ Be careful whenever touching the print head.

CAUTION!

Possible damage to the print head due to electrostatic discharge or contact with sharp edges.

- ▶ Always protect the print head against electrostatic discharge when performing maintenance and cleaning work! Use ESD protective equipment!
- ▶ Never touch the thermal strip with bare hands!
- ▶ Never contact the thermal strip with sharp objects!

If no professional ESD protective equipment (ESD wristband, ESD shoes, ...) is available:

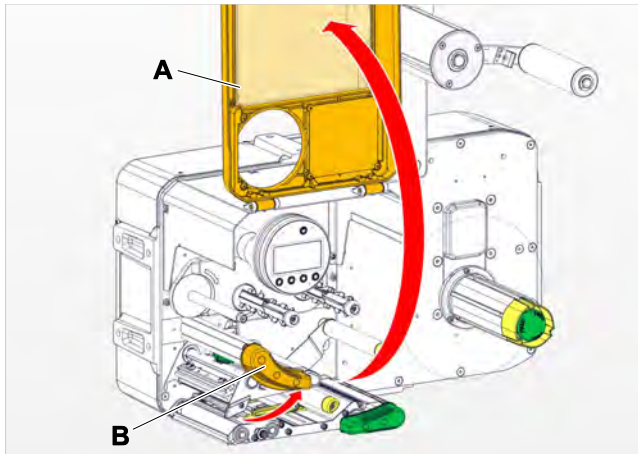
- ▶ Discharge your own body before touching the print head, e.g. by touching an earthed object (e.g. radiator) in your vicinity!

Procedure

Removing the print head:

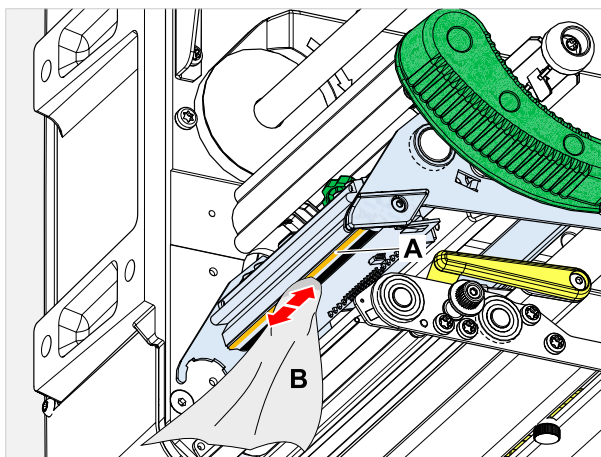
1. Switch off the machine.

2. Open the front hood (A, figure below).



3. Open the print head pressure lever (B, figure above).
4. (Optional) Loosen the ribbon web and push it aside at the print head.
5. Moisten a lint-free cloth with cleaning agent and wipe off the thermo strip (A, B).

! For suitable cleaning agents, see table in chapter "Cleaning Instructions".



6. (Alternative) Wipe the thermo strip with a cleaning pen.

Related reference

Cleaning Instructions on page 132

CLEANING THE RUBBER ROLLERS

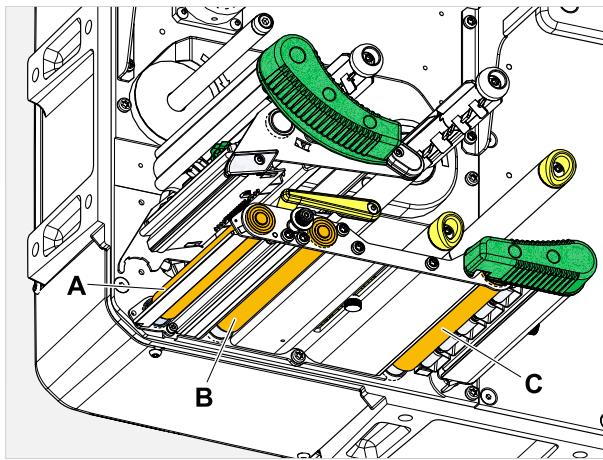
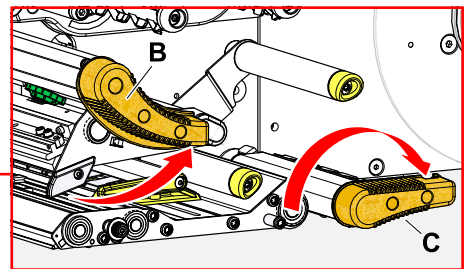
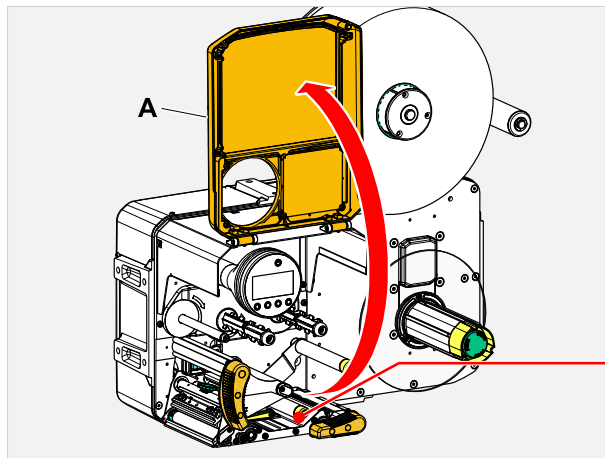


Fig. 75: Position of the rubber rollers: **A** Print roller, **B** Feed roller, **C** Draw roller

Procedure

1. Switch off the machine.
2. Open the front hood (A, figure below).



3. Open the print head pressure lever (B, figure above) and the draw roller lever (C, figure above).

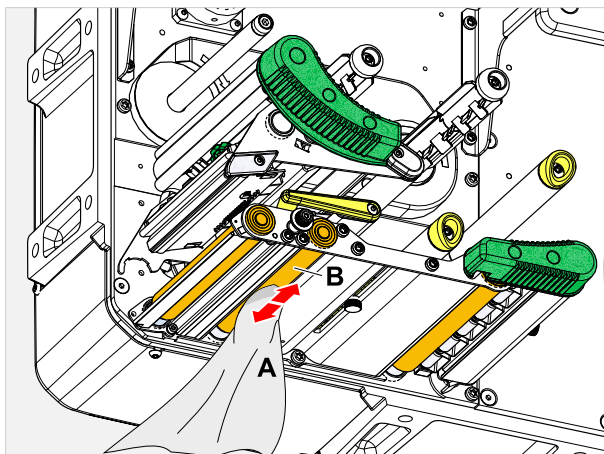
4.

CAUTION!

Risk of damaging the roller.

- Never use knives or sharp-edged objects to clean the rollers!

Moisten a dust-free cloth (A) with roller cleaner and wipe the roller (B) on the underside of the machine with it. Turn the roller step by step by hand until it is completely cleaned..



CLEANING DEFLECTION AXLES AND ROLLERS

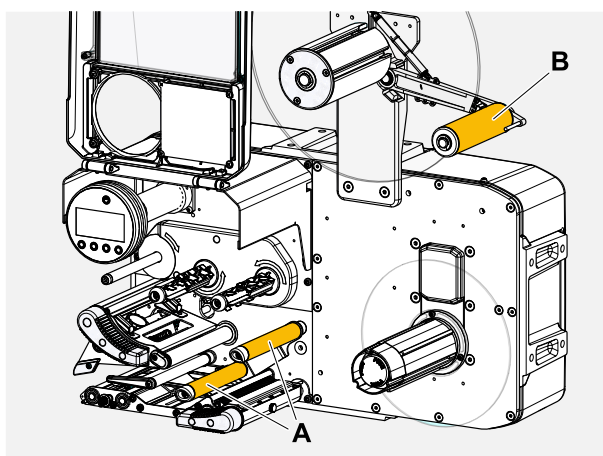


Fig. 76: Deflection axles (A) and rollers (B) at a XPA 93x.

Over time, adhesive residues settle on the deflectors for label material, that must be removed. This is especially true when the deflection is in contact with the label side of the web.

Procedure

Moisten a cloth with spirit and wipe the deflection axles or rollers with it.

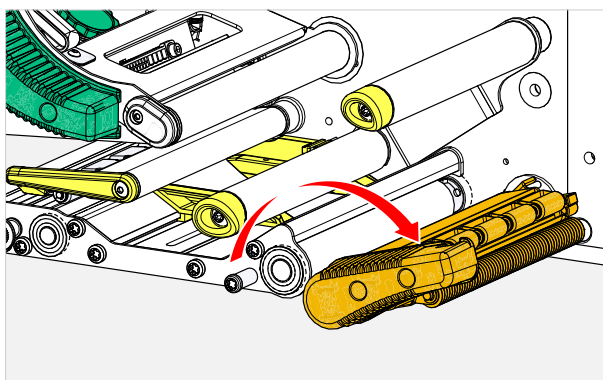
! In case of heavier soiling, moisten the cloth with a label remover. Observe the manufacturer's safety instructions on the label!

CLEANING THE PRESSURE ROLLERS AT THE DRAW ROLLER PRESSURE LEVER

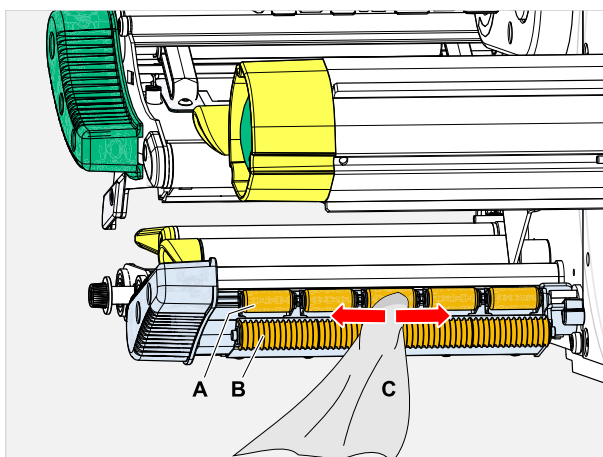
The pressure rollers on the draw roller can easily be cleaned when opened. Alternatively, the pressure roller lever can be removed for cleaning.

Procedure

1. Stop the machine.
2. Open the draw roller pressure lever.



3. Moisten a lint-free cloth with methylated spirit and wipe the pressure rollers (A, B) with it (C).



Related tasks

[Disassembling the pressure lever at the draw roller](#) on page 147

CLEANING THE RIBBON PATH

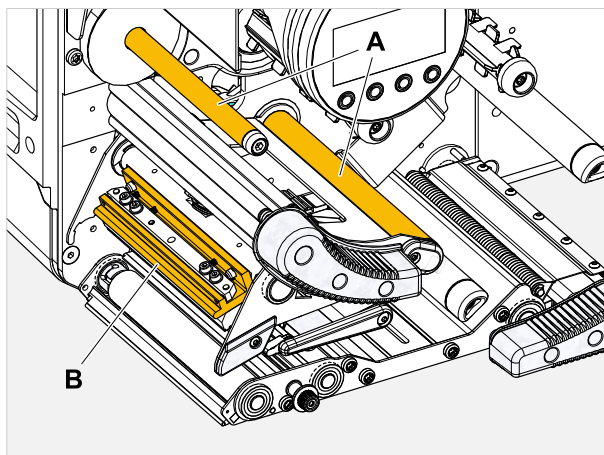


Fig. 77: Ribbon deflections at a XPA 93x (A: Axles, B: Print head nose).

Over time, wax/resin residues settle on the deflectors for thermal transfer ribbon that must be removed.

Procedure

Moisten the cloth with spirit and wipe the deflectors with it.

CLEANING THE LABEL SENSOR

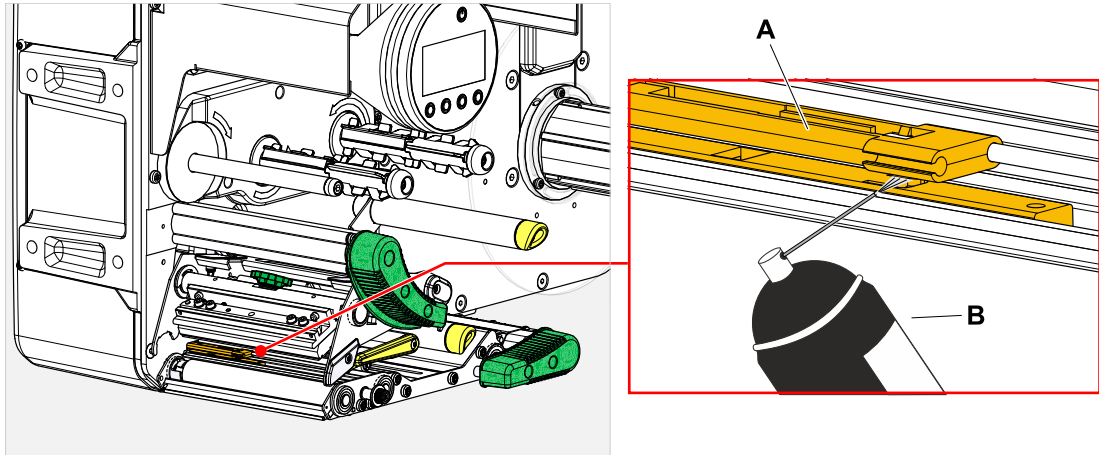
Procedure

Cleaning for light soiling:

1. Open the front hood.
2. Open the print head pressure lever.
3. Remove the label web from the print module.
4. (Optional) Loosen the ribbon web and push it aside at the print head.

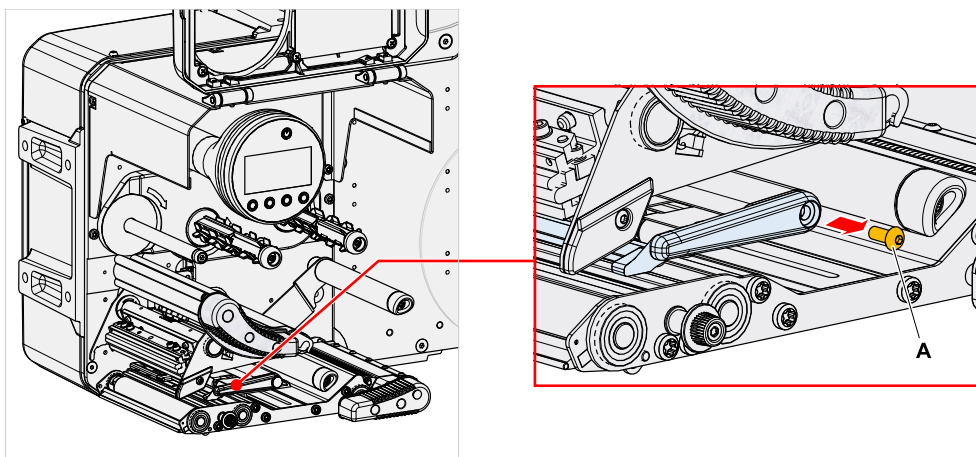
5. Blow out the gap in the sensor fork (A) with compressed air.

! The sensor is located at the end of the sensor fork. For heavy soiling, additionally clean with spirit and dust-free cloth.

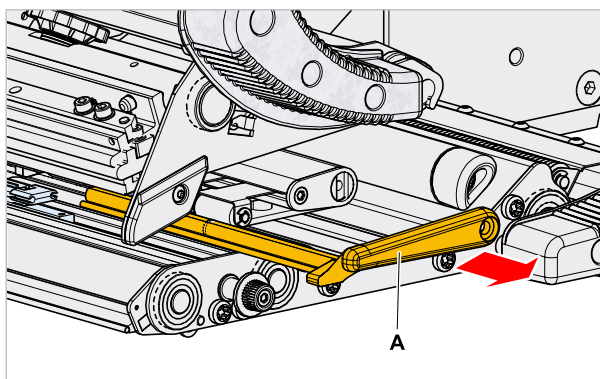


Cleaning for heavy soiling:

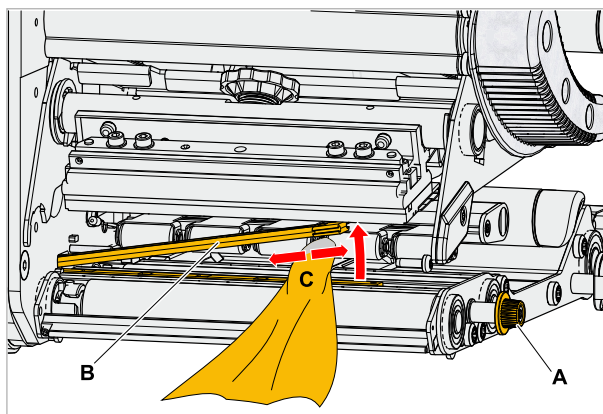
6. Unscrew screw (A).



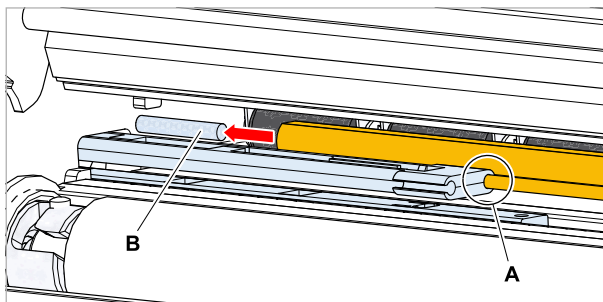
7. Pull out guiding profile (A).



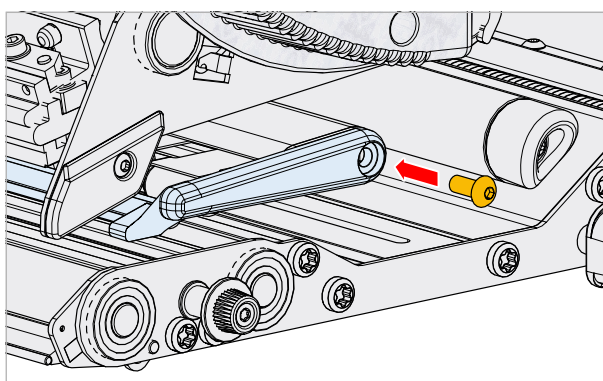
8. Move the light barrier fork all the way out by turning the setting knob (A).



9. Carefully lift the upper part of the light barrier fork (B, figure above).
10. Moisten a cloth or cotton swab with methylated spirit (C, figure above) and wipe it over the light barrier at the end of the light barrier fork.
11. When assembling, push the guide profile through the guide (A) of the light barrier fork again and push the rear end back onto the bolt (B) in the base plate.



12. Screw the plastic part tight again:

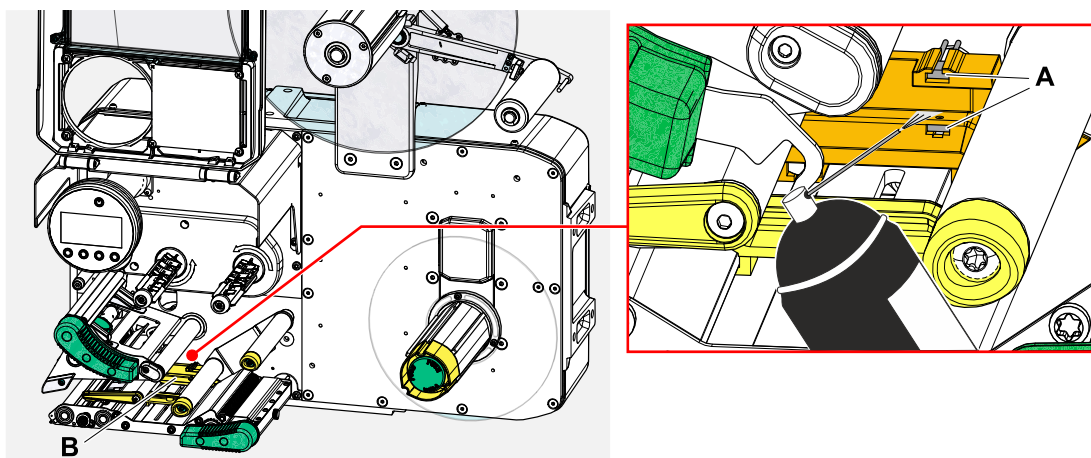


CLEANING THE MATERIAL END SENSOR

The material end sensor (A) is located in the inner material guide (B). The sensor must be cleaned regularly to remove material and dust residues. The cleaning intervals depend on the material used.

Procedure

1. Open the front hood.
2. Open the print head pressure lever.
3. Remove the label web from the print module.
4. Clean the material end sensor (A) with compressed air.



5. (If necessary) In case of heavy soiling, have the material guide removed by a service technician and additionally clean the sensor with spirit and dust-free cloth.

Maintenance

REPLACING RUBBER ROLLERS

The rubber rollers are held in place by a bayonet coupling and can be replaced without any tool. This description counts for the following rollers (see fig.):

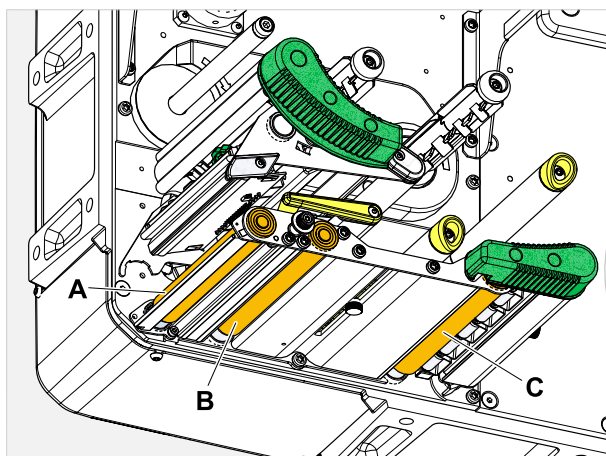


Fig. 78: A Print roller, B Feed roller, C Draw roller

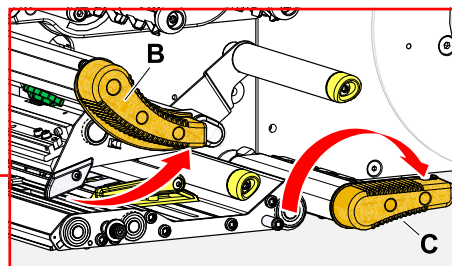
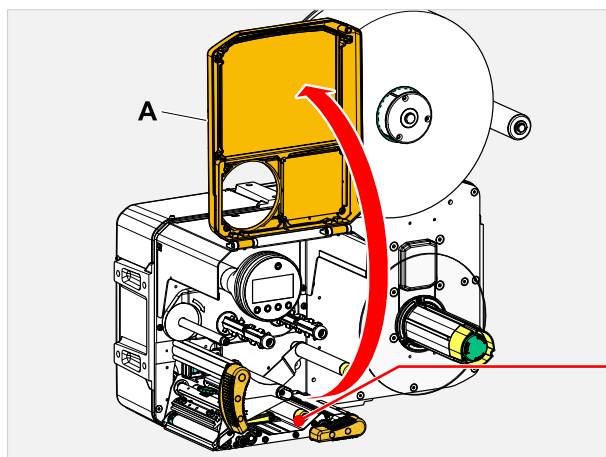
 Video instruction "Feed roller replacement"

 Video instruction "Tool free maintenance"

Procedure

Removing a roller:

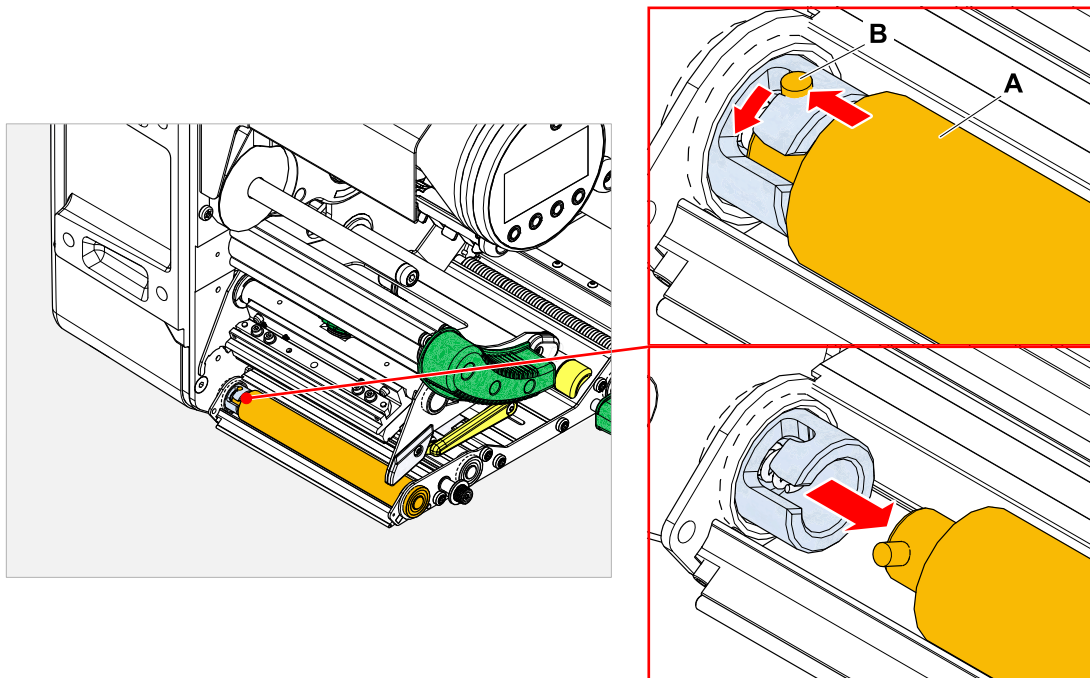
1. Switch off the machine.
2. Open the front hood (A).



3. Open the print head pressure lever (B, figure above) and the draw roller lever (C, figure above).
4. (Optional) Remove the label web from the print module.

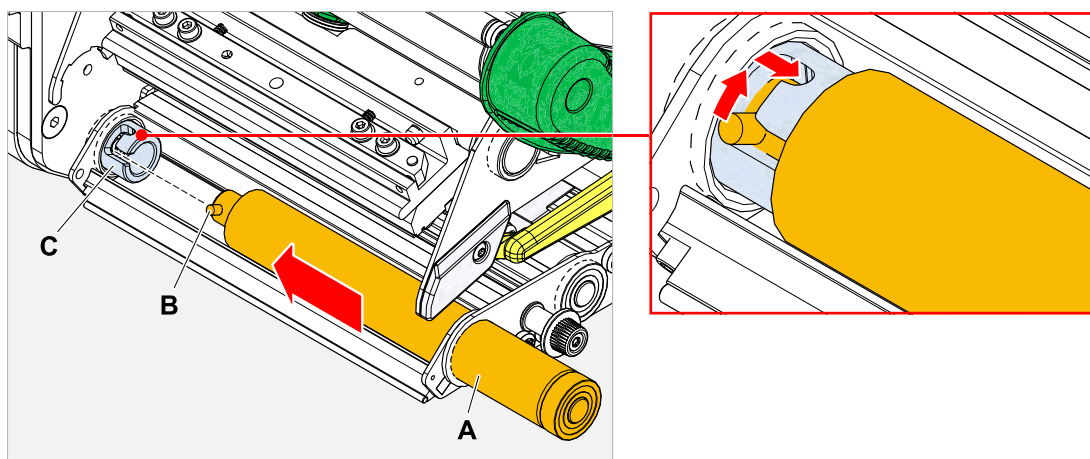
5. Press the print roller (A) firmly in up to the stop, then turn it to the left and pull it out.

! When the machine is switched off - what it should be - the clutches rotate with it. The print roller can be easily blocked by holding the feed roller and vice versa. Turn the draw roller to the left as quickly as possible to take advantage of the mass inertia.



Installing:

6. Push the roller (A) through the external bearing plate.



7. Turn the roller so that the steel pin (B, figure above) at its end engages in the opening of the bayonet coupling.
8. Push the roller firmly in up to the stop, then turn it to the right up to the stop.

PRINT HEAD REPLACEMENT

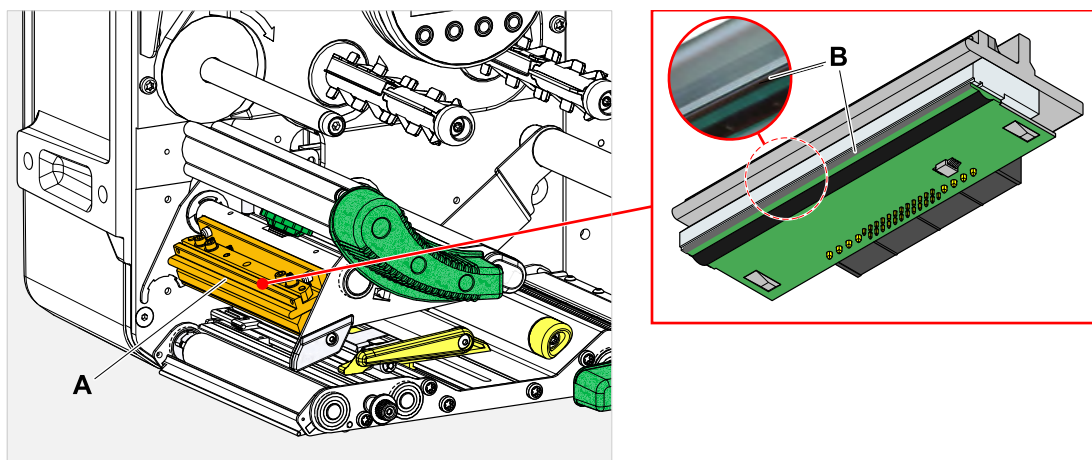


Fig. 79: **A:** Print head, **B:** Thermal strip at the print head



WARNING!

Burn hazard. The print head becomes hot during operation.

- ▶ Allow print head to cool before touching.
- ▶ Be careful whenever touching the print head.

CAUTION!

Possible damage to the print head due to electrostatic discharge or contact with sharp edges.

- ▶ Switch off the machine at its main switch before replacing the print head!
- ▶ Always protect the print head against electrostatic discharge when performing maintenance and cleaning work! Use ESD protective equipment!
- ▶ Never touch the thermal strip with bare hands!
- ▶ Never contact the thermal strip with sharp objects!

If no professional ESD protective equipment (ESD wristband, ESD shoes, ...) is available:

- ▶ Discharge your own body before touching the print head, e.g. by touching an earthed object (e.g. radiator) in your vicinity!



Mind the following *before ordering* an exchange print head:

- The printhead for the XPA 935 differs between LH and RH version of the machine!
- Change from a 5" print head to a 6" print head or vice versa on the XPA 935/936:
 - Possible with LH machines *without any problems*, the print head is automatically recognised
 - *Not possible* with RH machines



Video instruction "Print head replacement"



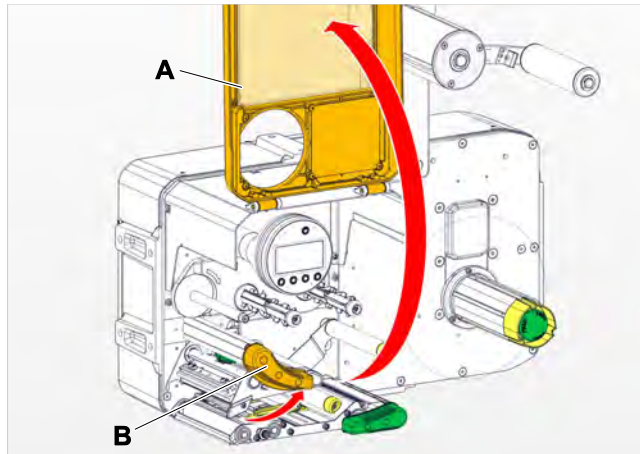
Video instruction "Tool free maintenance".

Procedure

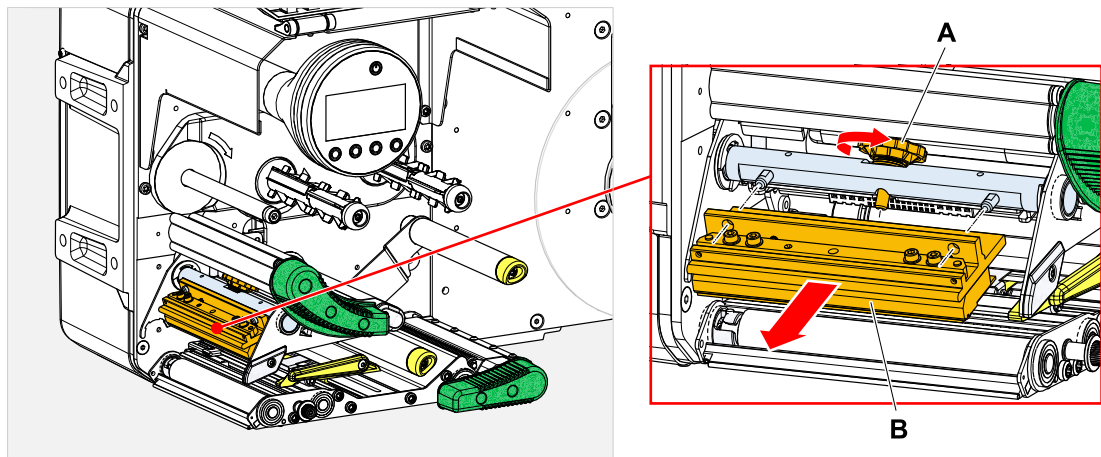
Removing the print head:

1. Switch off the machine.

2. Open the front hood (A, figure below).

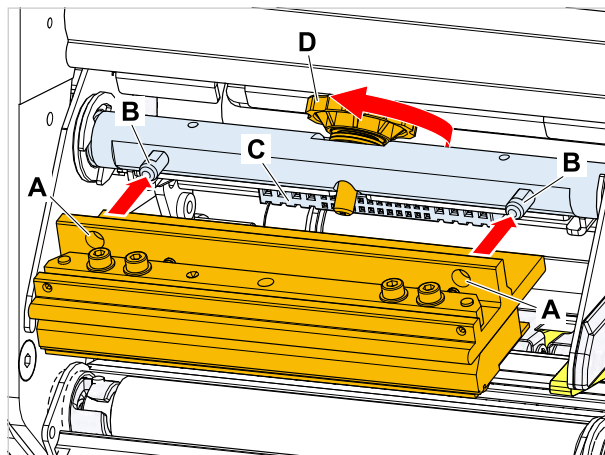


3. Open the print head pressure lever (B, figure above).
4. (Optional) Loosen the ribbon web and push it aside at the print head.
5. Loosen thumb screw (A) and pull print head (B) forward.



Installing the print head:

6. Position the new print head with the holes (A) on the bolts (B). Carefully press the print head with the plug contacts on the rear side into the connector (C).



7. Tighten thumb screw (D, figure above).

What to do next

It is not necessary to adjust the print head resistance or the print head width on the XPA 93x because the print head is equipped with a memory chip on which all data relevant for operation is stored.

This stored print head data enables the machine control system to determine whether it is the correct print head type. If this is not the case, the following error message appears:

```
6033
Print Head not supp.
```

If no print head or a defective print head is installed, the following error message appears:

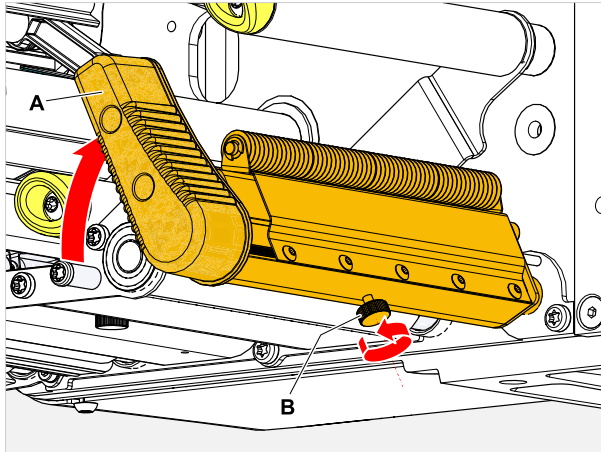
```
6034
P. Head missing or defect
```

DISASSEMBLING THE PRESSURE LEVER AT THE DRAW ROLLER

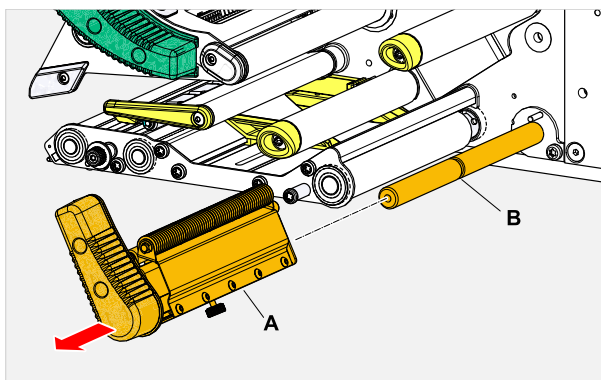
The pressure lever can be removed without tools.

Procedure

1. Open the draw roller pressure lever (A).



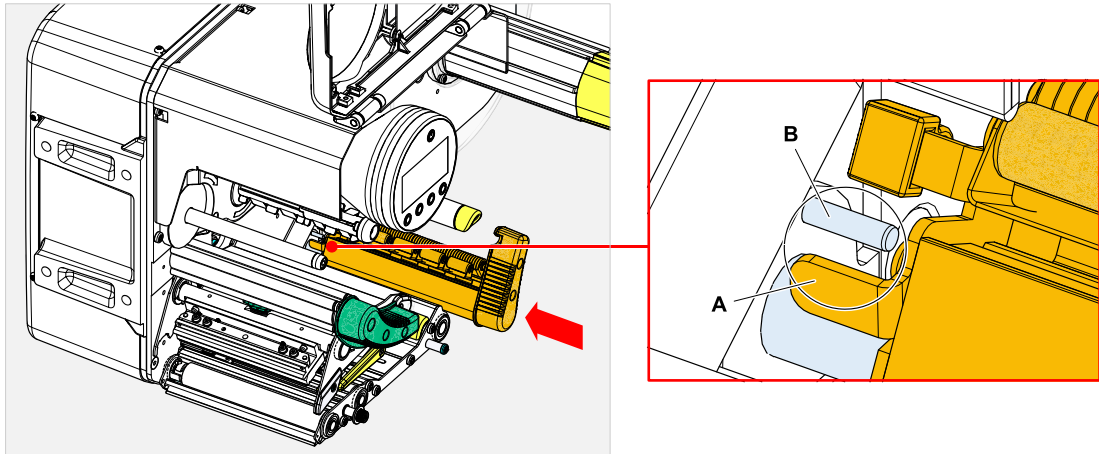
2. Loosen the thumb screw (B, picture above) until the complete pressure lever can be pulled off the axle.
3. Remove the pressure lever.



4. Assembly:

- a) Push the lever onto the axle, but do not push it all the way to the rear.
- b) Turn the lever so that the stop (A) on the lever is to the left of the bolt (B).
- c) Tighten the thumb screw only very lightly. Now move the lever slightly on the axle and feel it when the thumb screw engages in the groove (B, picture above) on the axle. Tighten the thumb screw.

! The thumb screw must engage in the groove on the axle (B, figure above)..



Appendix

EU DECLARATIONS

EU Declaration of Conformity

(Translation of original version)

We,

Novexx Solutions GmbH
Ohmstraße 3
D-85386 Eching
Germany

hereby declare that we have designed and built the machine designated below so that it is in conformity with the basic safety and health protection requirements of the directive named below:

Models	XPA 934 / XPA 935 / XPA 936 / XPA 944
General designation	Label print & apply system
Applicable EU directive	2014/30/EU (EMC) 2011/65/EU (RoHS) in the currently valid version
Applied harmonized standards, especially	EN 61000-6-4 : 2007 + A1 : 2011 EN 61000-6-2 : 2005 + AC : 2005 EN 61000-3-2 : 2014 EN 61000-3-3 : 2013

Eching, 27.2.2026

Alfredo Sansone
Head of Supply Chain and
Operations and Compliance

EU Declaration of Incorporation

(Translation of original version)

We, Novexx Solutions GmbH
Ohmstraße 3
D-85386 Eching
Germany

hereby declare that the partly completed machine designated below has been designed and built in such a way as to be in conformity with the safety and health protection requirements of directive 2006/42/EC, annex I, which are marked „fulfilled“ in the following table „Appendix regarding the Declaration of Incorporation“.

The special technical documents in accordance with appendix VII part B of directive 2006/42/EC have been created. We undertake to forward the special technical documentation in respect of the partly completed machine to national authorities at their request. We shall submit them by means of electronic data carrier.

The partly completed machine designated herein is furthermore in compliance with the provisions of directive 2014/30/EU (EMC) and directive 2011/65/EU(RoHS, in the currently valid version).

The designated partly completed machine must not be placed in operation until it has been determined that the machine in which the partly completed machine has been installed is in compliance with the provisions of directive 2006/42/EG.

Models	XPA 934 / XPA 935 / XPA 936 / XPA 944
General designation	Label print dispenser
Applicable EU directive	2006/42/EC (Machinery Directive)
Applied harmonized standards, especially	EN ISO 12100 : 2010 EN IEC 62368-1 : 2024/A11 : 2024 EN 415-2 : 1999
The person authorized to compile technical documents	Novexx Solutions GmbH (for address see above)

Eching, 2.12.2025

Alfredo Sansone
Head of Supply Chain and
Operations and Compliance

Appendix regarding the Declaration of Incorporation

List of the essential health and safety requirements applied and fulfilled for the product named in the declaration of incorporation, relating to the design and construction of machinery.

Number Annex I	Designation	Not applicable	Fulfilled	Remark
1.1	General remarks			
1.1.2.	Principles of safety integration		X	
1.1.3.	Materials and products		X	
1.1.4.	Lighting	X		
1.1.5.	Design of machinery to facilitate its handling		X	
1.1.6.	Ergonomics	X		
1.1.7.	Operating positions	X		
1.1.8.	Seating	X		
1.2.	Control systems			
1.2.1.	Safety and reliability of control systems		X	
1.2.2.	Control devices		X	
1.2.3.	Starting		X	
1.2.4.	Stopping			
1.2.4.1.	Normal stop		X	
1.2.4.2.	Operational stop		X	
1.2.4.3.	Emergency stop		X	
1.2.4.4.	Assembly of machinery		X	
1.2.5.	Selection of control or operating modes	X		
1.2.6.	Failure of the power supply		X	
1.3.	Protection against mechanical hazards			
1.3.1.	Risk of loss of stability		X	
1.3.2.	Risk of break-up during operation		X	
1.3.3.	Risks due to falling or ejected objects		X	
1.3.4.	Risks due to surfaces, edges or angles		X	
1.3.5.	Risks related to combined machinery	X		
1.3.6.	Risks related to variations in operating conditions	X		
1.3.7.	Risks related to moving parts		X	
1.3.8.	Choice of protection against risks arising from moving parts			
1.3.8.1.	Moving transmission parts		X	

Number Annex I	Designation	Not applicable	Fulfilled	Remark
1.3.8.2.	Moving parts involved in the process			Requires protective device ^[44]
1.3.9.	Risks of uncontrolled movements		X	
1.4.	Required characteristics of guards and protective devices			
1.4.1.	General requirements			a
1.4.2.	Special requirements for guards			
1.4.2.1.	Fixed guards	X		
1.4.2.2.	Interlocking movable guards			a
1.4.2.3.	Adjustable guards restricting access	X		
1.4.3.	Special requirements for protective devices	X		
1.5.	Risks due to other hazards			
1.5.1.	Electricity supply		X	
1.5.2.	Static electricity		X	
1.5.3.	Energy supply other than electricity		X	
1.5.4.	Errors of fitting		X	
1.5.5.	Extreme temperatures		X	
1.5.6.	Fire		X	
1.5.7.	Explosion	X		
1.5.8.	Noise		X	
1.5.9.	Vibrations	X		
1.5.10.	Radiation		X	
1.5.11.	External radiation		X	
1.5.12.	Laser radiation	X		
1.5.13.	Emissions of hazardous materials and substances	X		
1.5.14.	Risk of being trapped in a machine	X		
1.5.15.	Risk of slipping, tripping or falling		X	
1.5.16.	Lightning	X		
1.6.	Maintenance			
1.6.1.	Machinery maintenance		X	
1.6.2.	Access to operating positions and servicing points		X	
1.6.3.	Isolation of energy sources		X	
1.6.4.	Operator intervention		X	

⁴⁴ Installation by the system integrator

Number Annex I	Designation	Not applicable	Fulfilled	Remark
1.6.5.	Cleaning of internal parts	X		
1.7.	Information			
1.7.1.	Information and warnings on the machinery		X	
1.7.1.1.	Information and information devices		X	
1.7.1.2.	Warning devices	X		
1.7.2.	Warning or residual risks		X	
1.7.3.	Marking of machinery		X	
1.7.4.	Instructions		X	
1.7.4.1.	General principles for the drafting of instructions		X	
1.7.4.2.	Contents of the instructions		X	
1.7.4.3.	Sales literature		X	

SUPPLIER'S DECLARATION OF CONFORMITY (SDOC)

Unique Identifier

XPA 934 / XPA 935 / XPA 936

Party issuing Supplier's Declaration of Conformity

Novexx Solutions GmbH

Ohmstraße 3

D-85386 Eching

Germany

www.novexx.com

Responsible Party - U. S. Contact Information

Americas Compliance Consulting LLC dba iCertifi

5809 US-2, Suite B, Albeni Plaza

Priest River, Idaho 83856

United States

+1 (866) 885-4575

fccagent@icertifi.com

FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

APPLIED LICENCES

Open Source Software

This print & apply system uses open source software. A directory of the used software libraries and licenses is stored in the machine and can be downloaded via web browser.

Enter the following address in the web browser:

`http://<hostname>/licenses.zip`

! <hostname> = Hostname or IP address of the machine

The web server must be activated (Interface > Network > Services > WEB server = "On").

The file `licenses.zip` contains a number of subdirectories, each named after a used software library. Each subdirectory contains the open source license relevant for the respective software.

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