USER MANUAL

XPU

Pallet labeler

Contents

Please note

GENERAL NOTES

Validity of this manual and required compliance

Naming

The entire pallet labeler is hereinafter referred to as the XPU. The XPA 936 print & apply system contained in the XPU is referred to below as the printer.

Contents

The complete operating manual for the pallet labeler XPU consists of the following parts:

Manual	Target group	Medium	Availability
User manual XPU	Operating personnel	Printed	Comes with machine
		PDF file	NOVEXX Solutions web page www.novexx.de
User manual XPA 936		PDF file	
Installation/Service manual XPA 936	Service personnel	PDF file	NOVEXX Solutions Partner Portal https://partner.novexx.com
Spare parts catalog XPA 936			

Table 1: Elements of the complete documentation.

This user manual refers exclusively to the machine type 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.

For information about the required qualification, see section "Information and qualification" on page 7.

For information about installation and configuration, refer to the service manual.

For technical questions not covered in this operating manual::

► Follow the instructions of the service manual

or

► Request a service technician from our sales partner..

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

Technical release

Technical release: 12/2023

Software version printer: BEL-V6.2

Liability

Novexx Solutions reserves the right:

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

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

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How information is represented

Explanation of symbols

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

► Instruction with no order of tasks assigned

1. Numbered instructions introduced by preceding text

2. The specified order must be followed!

‖ Special note for action that must be performed. ‖

- 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
(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 2: Different references to illustrations.

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

Parameters

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

FOR YOUR SAFETY

Intended use

The XPU palett labeler is intended for printing on self-adhesive DIN A5 labels in portrait format and to apply two identical labels at two sides of a loaded palett (see fig. below).

Printing method: The labels are printed and dispensed by the integrated print & apply system using the thermal transfer procedure

Application: The dispensed label is moved by the applicator to the palett, covering a distance of about 50 cm. Aferwards, the label is pressed onto the palett by the applicator.

Consumables: Thermal transfer ribbon and label material must be supplied as 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.

Palett: As a rule, the - loaded - palett will be moved on a conveyor up to the labeling position in front of the XPU, where it will be stopped. The palett must stand still during the labeling.
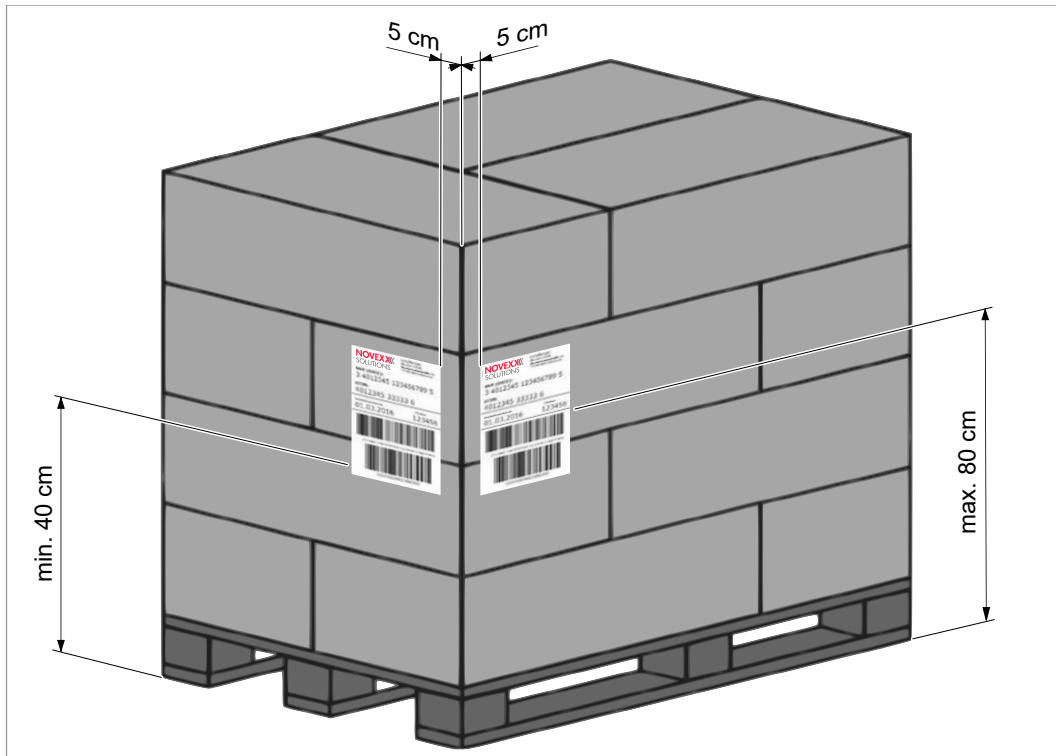
Fig. 1: Position of the transport labels on the palett, according to the standard GS1.

Information and qualification

Ensuring the necessary qualification

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

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

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

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

Qualification for operation

The instruction provided for the operating personnel must ensure,

• that the operating personnel can use the machine independently and without danger.

• that the operating personnel can rectify minor operating faults (for example a paper jam) independently.

Therefore:

► 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

EXPERTS Knowledge required to install the Print & Apply system and perform service work must be demonstrated through appropriate qualification. Only service personnel with technical train-ing 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 Ger-many the training to become a mechatronics engineer)

- Participation in a technical training course for the corresponding label dispenser offered by the man-ufacturer

- The service personnel must be acquainted with the functionality of the label dispenser

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

Tasks	System integrator	Operator	Service technician
Mount the machine	X		
Connect the machine	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 [1]	X	X	X
Clean the machine		X	X
Rectify major operating faults [2]			X
Settings to the electronics/ mechanics			X
Repairs			X
Manual:	Service manual, Installation manual	Operating Manual	Service manual, spare parts catalog

Table 3: An example of the distribution of tasks among different qualified personnel.

Making note of information

⚠️ WARNING!

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

► Before beginning operation, read this operating manual and follow all of the instruc-tions.

► Observe all additional safety and warning information given on the label dispenser..

► Only technically knowledgeable persons are permitted to operate the label dis-penser and make settings on it.

---

1 For example faults when detecting labels

2 For example incorrect labelling

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

Keep product information at hand

This user manual

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

► must be kept in legible condition.

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

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

Operating safety of the machine

Intended use

► The machine must only be used in accordance with the specifications in section "Intended use" on page 6 .

Warning of injuries due to electrical shock

> ⚠ WARNING!
> Hazard of electrical shocks and burns!
> This unit operates at mains voltage! Contacting electrically live components can cause lethal electrical shocks and burns..
>
> ► Be sure to observe the precautions in this section!

► In case of danger, switch off the machine with the emergency stop switch and pull out the main plug.

Installation:

► Only operate the machine when the enclosure is properly installed.

► The machine must only be connected by an authorised technician who is acquainted with the associated dangers.

► Only link the machine to devices that fulfil the ES1 circuit requirements specified in EN 62368-1.

► Keep the machine's On/Off switch accessible.

Cleaning:

► Before cleaning and maintenance, switch off the machine and pull out the main plug.

► Keep the machine dry.

► If a liquid gets into the machine, switch off the machine immediately and pull out the main plug. Notify a service technician.

Schutz vor Verletzungen durch mechanische Einwirkung

> ⚠️ WARNING!
> Danger of crushing between dispensing edge and applicator pressure plate due to applicator movement!
> ► 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.

> ⚠️ WARNING!
> Danger of injury caused by falling label roll!
> ► Wear safety shoes.

> ⚠️ WARNING!
> Tripping hazard!
> ► Lay the connection cable and pneumatic hoses (if fitted) so that no one can trip over them.

Every time before starting production

Due diligence of the operator and service personnel

► Ensure that the following requirements are met in accordance with details specified in the service manual:

• The machine must be set up and configured to meet applicable requirements

• All necessary safety equipment must be installed

• The machine must have successfully completed at least one test run

• The machine must be connected to the energy supply

► Make the requisite personal protective equipment available to the operating personnel, for example hair nets. Ensure that the protective equipment is used properly.

Due diligence of the operating personnel

► Check the safety equipment to ensure it is working correctly.

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

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

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

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

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

Warning 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.
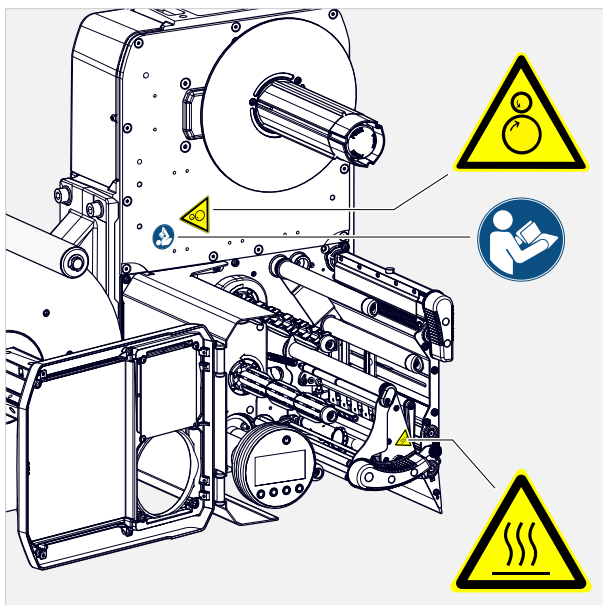
Fig. 2: Warning notes on the printer.

Warning note	Meaning	Article no.
	The „Pinch point" warning note warns you 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 device to cool off before touching it.	A5640
	The blue label „Read manual" demands that operators read the user manual.	A5331

Table 4: Meaning of the warning notes.

Product description

OVERVIEW

Designs

The XPU is available in a righthand (RH) and lefthand (LH) version.

Irrespective of wether it is a RH or LH XPU, the operator stands always on the same side of the machine (see fig. below).

If the application has to be in accordance with the GS1 standard, a RH machine has to be applied.

Fig. 3: XPU RH: The applicator slews to the *right* to apply the frontal label, what matches the GS1 standard.
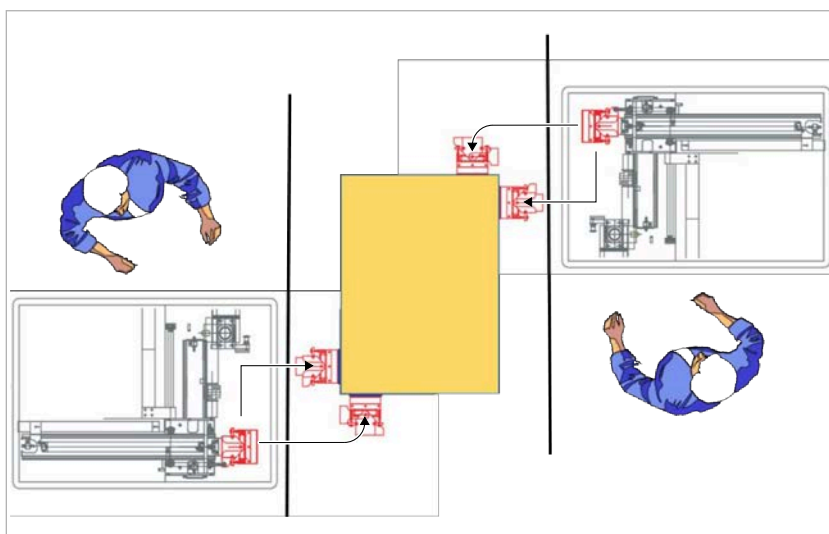
Fig. 4: XPU LH: The applicator slews to the *left* to apply the frontal label.

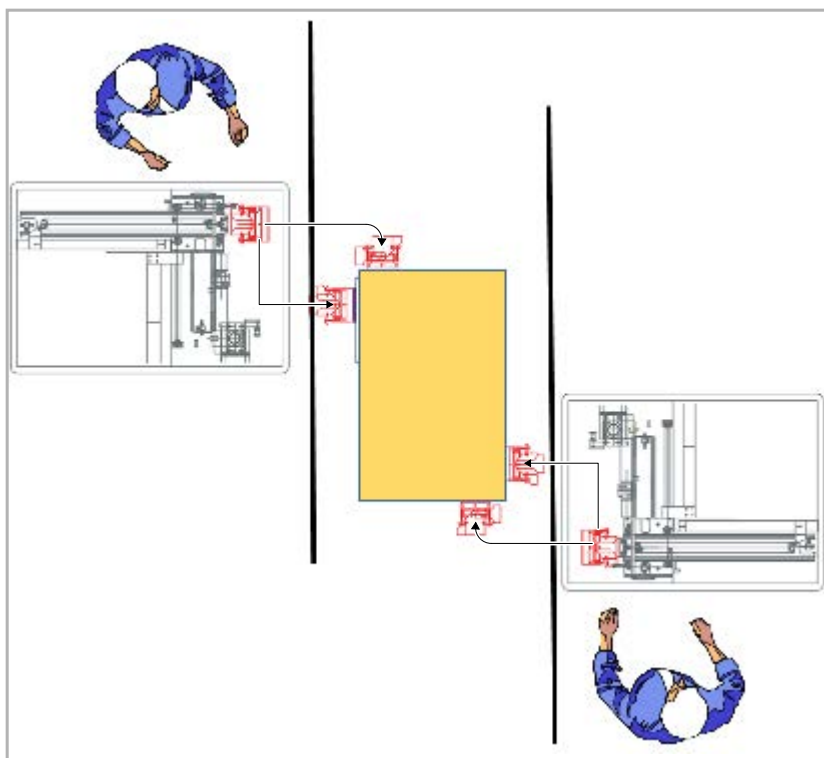## Functionality

The main function of the XPU palett labeler is printing on DIN A5 labels in portrait format and to apply two identical labels at two sides of a loaded palett.

‖ Optionally, the XPU can be set up to apply only one label. ‖

Print-apply sequence:

1. A print job is transferred via data interface to the printer and is interpreted. Afterwards, the machine is ready to print.

2. A start signal provided by the conveyor line tells the XPU that a palett has arrived. Thereupon, the printer in the XPU prints a label and dispenses it onto the applicator pressure plate.

Fig. 5: A label is dispensed onto the applicator pressure plate (arrow).

3. The applicator extends completely. While doing so, the applicator foot passes the front side of the palett.

4. The applicator foot slews 90° towards the palett.

5. The applicator moves laterally towards the palett and applies the label.

Fig. 6: The first label is attached to the front side of the palett.

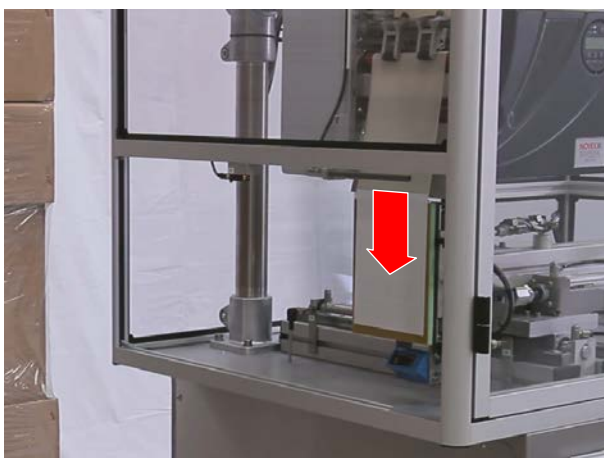6. As soon as the touch down sensors at the applicator foot signal that the label is pressed on, the applicator moves back to the printer dispensing edge.

7. The scanner integrated into the applicator foot reads the barcode on the label that has just been applied while the applicator foot moves back. The scanner checks the barcode on the label for legibility and also whether the label is present at all.

8. The second label is printed and dispensed onto the applicator foot.

9. The applicator arm moves sideways towards the middle of the palett.

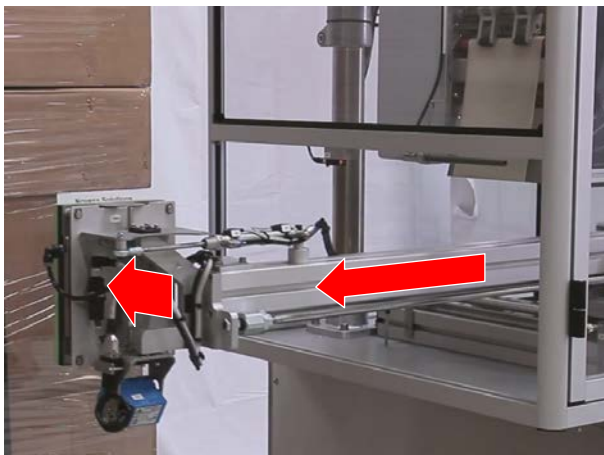10. The applicator extends and presses the label onto the side of the palett.

Fig. 7: The applicator presses the second label onto the side of the palett.

11. As soon as the touch down sensors at the applicator foot signal that the label is pressed on, the applicator moves back to the printer dispensing edge.

12. During the backward movement, the scanner checks the barcode.
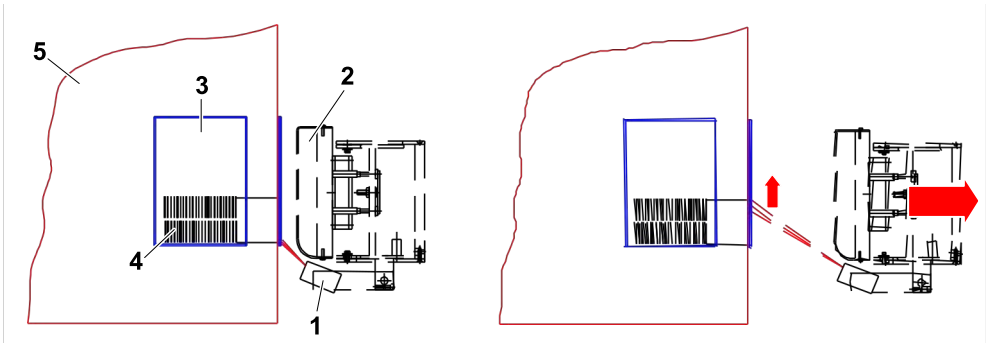
Fig. 8: As the applicator foot (2) moves away from the pallet (5), the light beam of the scanner (1) passes over the barcode (4) on the label (3).

Components of the XPU
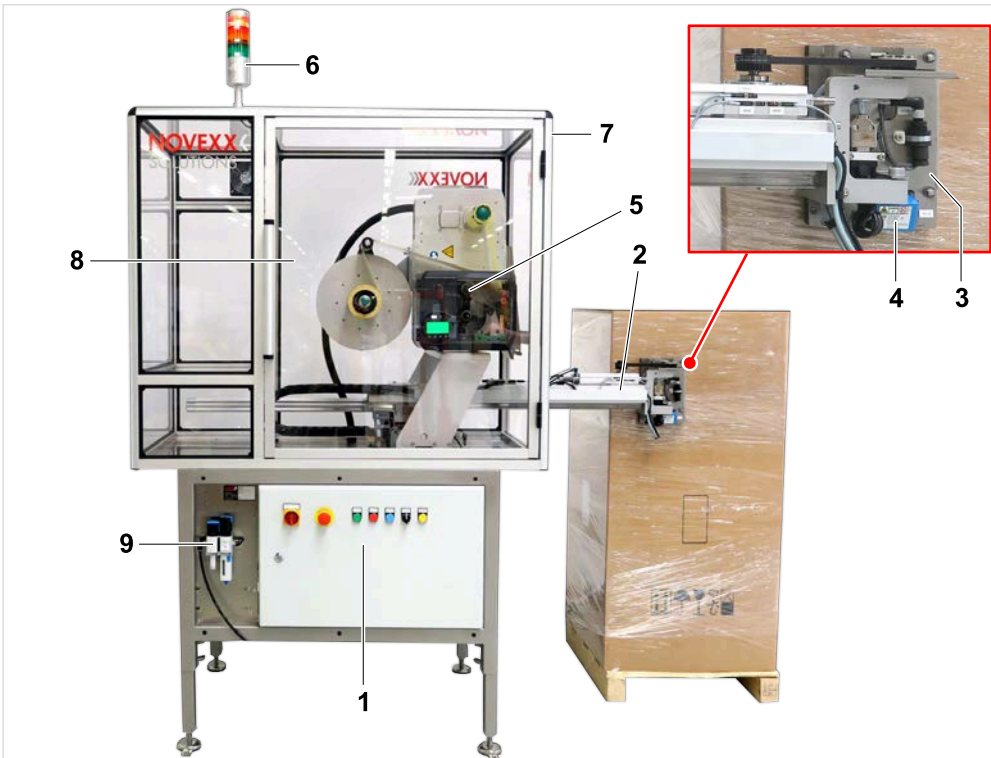
Fig. 9: Components of the XPU.

Pos.	Name	Description
1	Electrical cabinet (with XPU operating controls)	
2	Applicator	
3	Applicator plate	Holds the dispensed label and presses and blows it on.
4	Scanner	During the backward movement, the scanner verifies the barcode on the label, provided it is in the lower third

Pos.	Name	Description
5	Printer (XPA 936)	See "Operating components at the printer" on page 17
6	Signal beacon	
7	Dust protection cabin	
8	Cabin door	
9	Pneumatic service unit	

Operating controls XPU
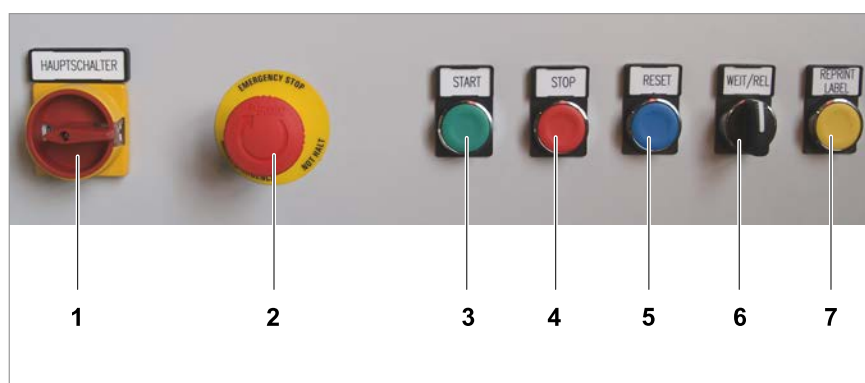
Fig. 10: Operating controls at the XPU

Pos.	Name	Function
1	Main switch	Switches the power supply of the machine on/off. See chapter "Switching the machine on" on page 38.
2	Emergency stop button	Stops the machine in an emergency case. See chapter "Emergency stop " on page 39.
3	START button	Makes the machine ready to operate. After pressing the start button, the machine waits for a start signal.
4	STOP button	Stops the machine. The current application cycle is finished bevor stopping. See chapter "Stopping the machine" on page 39.
5	RESET button	Resets the error status. See chapter "Display of errors and warnings" on page 67.
6	WEIT/REL button	In combination with the start button happens one of the following after an error: • a new application cycle is started (german: WEITerma-chen = continue) • the palett is RELeased See chapter "Function of the WEIT/REL switch" on page 68.

Pos.	Name	Function
7	REPRINT LABEL button	Prints a label without starting an application cycle (e. g. for setting purposes at the printer). ‖ The machine must be stopped. ‖

Operating components at the printer
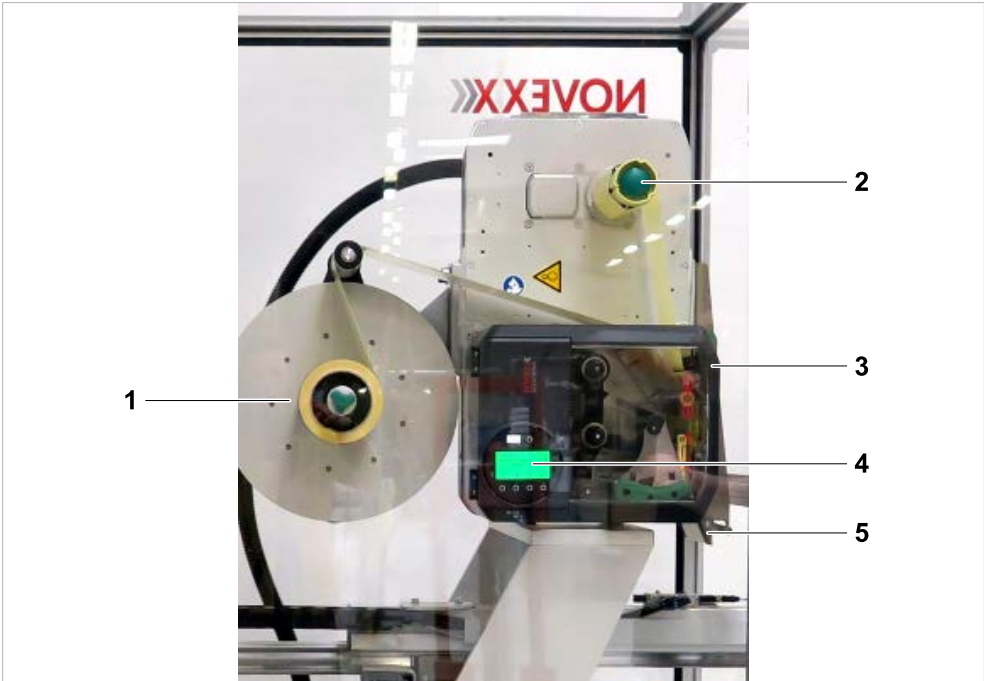
Fig. 11: Operating components at the printer.

Pos.	Name	Funktion
1	Material unwinder	The unwinding mandrel receives the material roll
2	Backing paper rewinder	Rewinds the remaining backing paper after dispensing of the labels
3	Front hood	Open to insert label material and ribbon
4	Operating panel	See description on the following page
5	Dispensing edge	Separates the labels from the backing material

‖ For details about operating the printer refer to the "User manual XPA 936". ‖

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.
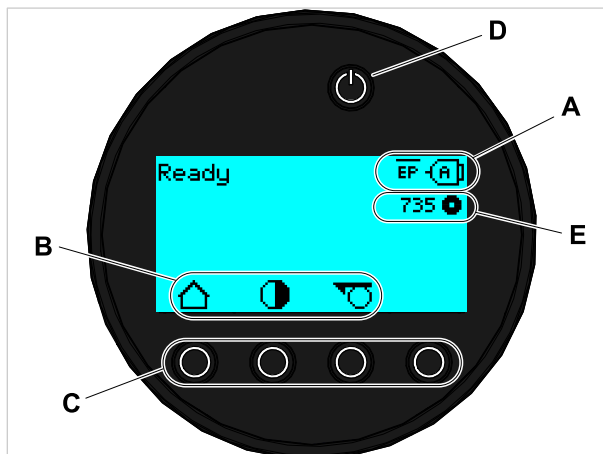
Fig. 12: Operation panel of the XPA 93x: **A** Icons that inform about the interface assignment, **B** Icons that show the key assignment, **C** Keys, **D** Standby key, **E** Remaining ribbon stock.

‖ For details about operating the printer refer to the "User manual XPA 936". ‖

Connections

> ⚠ WARNING!
> Danger of electrocution.
> ► Only connect the machine to devices that fulfil the ES1 circuit requirements specified in EN 62368-1.
> ► The machine must only be connected by an authorised technician who is acquainted with the associated dangers.

Electrical connection

Fig. 13: Power cable (1) and data cable (2) are led out of the electrical cabinet at its bottom side.

Compressed air connection

Fig. 14: Connect a "PUN 10 x 1,5" pneumatic hose to the service unit at the XPU (1) and to the compressed air supply.

TECHNICAL DATA

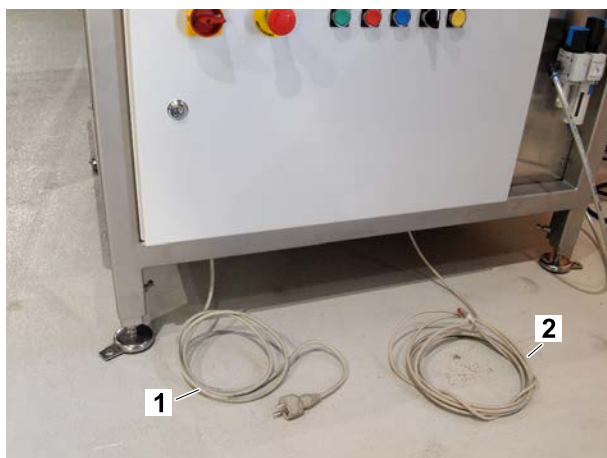|	
Performance data	• *Label rate*: 180 Paletts/hour • Application *cycle time*: min. 16 s (w/o palett transport)
Labels	• *Name*: Transport label or palett label • *Size*: A5 (210 mm x 150 mm) • *Material*: Paper (min. weight: 80 g/m^2), self-adhesive • *Core-Ø*: 76 mm • *Roll-Ø*: max. 300 mm
Palett	The palett must be able to withstand a lateral force up to 100 N, otherwise the touchdown sensors of the applicator won´t be triggered.
Printer	• *Type*: NOVEXX Solutions XPA 936 • *Print technology*: Thermal transfer printing • *Print head type*: Corner Edge • *Resolution*: 12 Dot/mm (300 dpi) • *Print width*: max. 160 mm • *Aperture width*: max. 184 mm • *Print- and dispense speed*: max. 300 mm/s • *Ribbon stock*: max. 1000 m
Applicator	• *Application accuracy*: ± 5 mm • *Stroke length*: see fig. below • Applicator foot with *blow-on function* and integrated *scanner*
Electrical interfaces	*Inputs*: • Emergency stop • Palett-in-position (start signal) • Data input at the printer (Ethernet 10/100/1000) *Outputs*: • Normal operation (running) • Warning • Error • Busy • Emergency stop
Connection	*Mains power supply*: • Mains voltage: 230 V (AC) • Input current: 10 A *Compressed air supply*: • 6 bar • 100 l/min
Control	PLC Siemens
Dimensions	*Weight*: 200 kg *Measures*: See fig. below
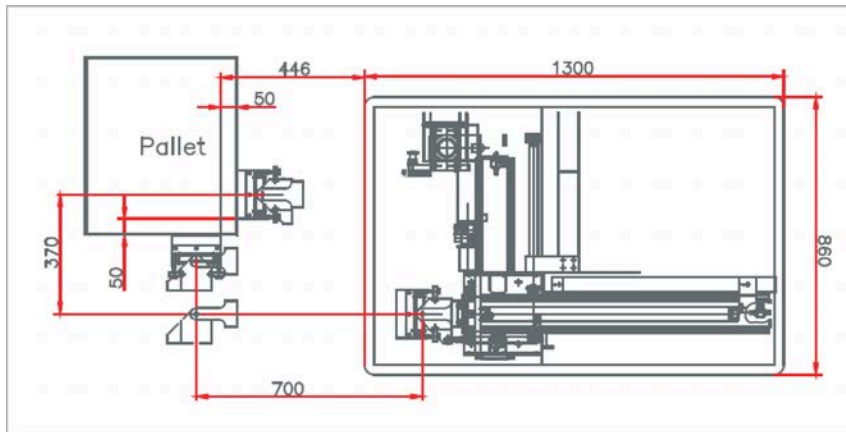
Fig. 15: Dimensions and stroke length of XPU RH.
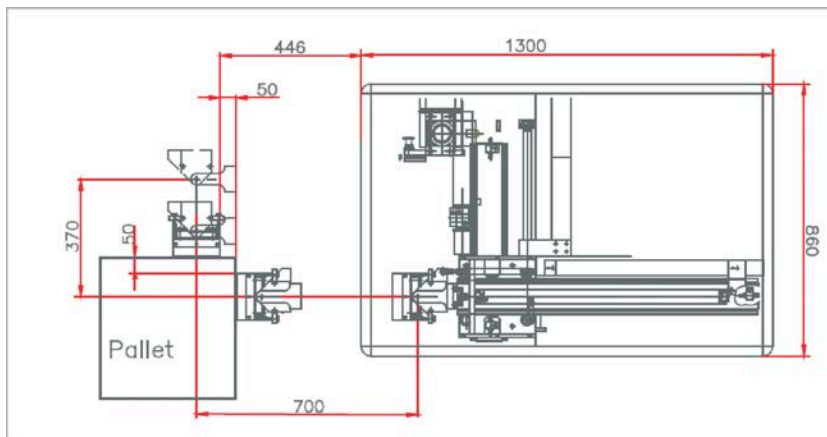
Fig. 16: Dimensions and stroke length of XPU LH.
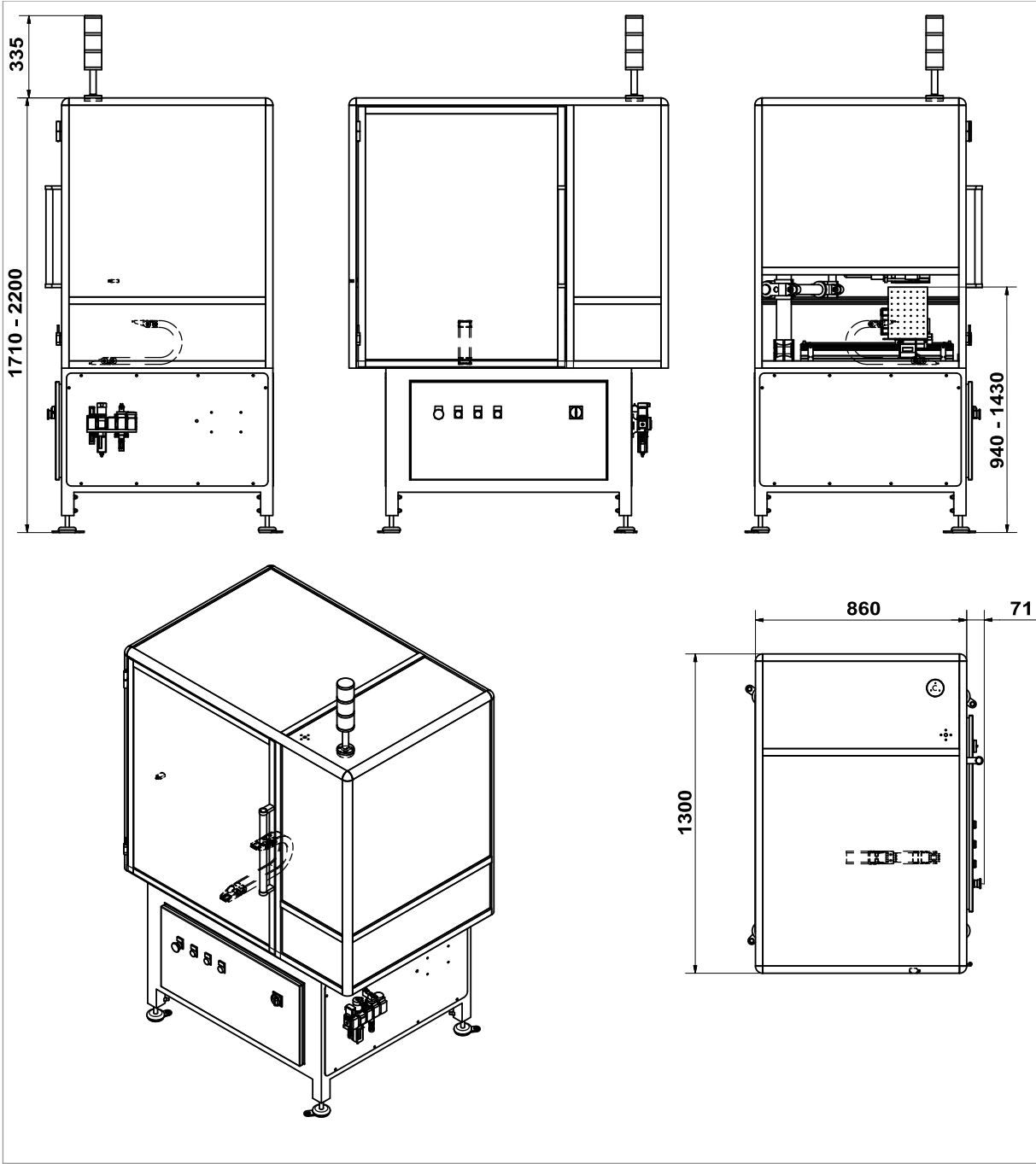
Fig. 17: Dimension drawing XPU.

OPTIONS

Enhancement of the XPU for 3-label-cycle

Article number: N101072

This optional system allows the applicator head to turn in both ways (right and left). Thus, labels can be applied on both short sides and the long side of a pallet. The pallet must stop in 2 positions for this.

O-ring applicator

Article number: N101073

When using PP/PE labels or very thin labels, it can be difficult to dispense the labels onto the applicator pad. For those cases, an applicator with O-rings is available. The O-rings move with the labels during dispensing.

Fig. 18: O-ring applicator foot at the XPU.

Shelf and tilt-out mini keyboard

Article number: N101074

When data is not send directly to the printer from a central host, this shelf and tilt-out mini keyboard prepared for use at a PC can be applied. The PC is not included.

Fig. 19: XPU with separate PC and keyboard.

PARAMETER MENU PRINTER

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 Service Manual.

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

Favorites [3]	Print		Print (continued)	
Parameter 1	DeleteJob		└ Ribbon	
Parameter 2	Printcontrast		├	Ribbon width
...	Headpressure		├	Ribbon Rew Tens.
Parameter n	X - Printadjust		├	Ribbon Unw Tens.
	Y - Printadjust		├	Color Side
	Print speed		├	Ribbon length
	DeleteSpooler		├	Outer ribbon Ø
	Material		└	Inner ribbon Ø
	├	Label	├	Ribbon autoecon. [4]
		├ Detect label length	├	Head down lead [5]
		├ Print method	├	Ribb. eco. limit [5]
		├ Material type	└	Feed mode
		├ Punch offset	Format	
		├ Material length	├	Bar codemultip.
		├ Material width	├	UPC plain-copy
		├ Label sens. type	├	EAN Readline
		├ Punch mode	├	EAN sep.lines
		├ Punch level [6]	├	Rotated barcodes
		├ Mat. end detect.	└	Printdirection
		└ Rewinder Tension	Feedspeed	
			(Backfeed speed)	
			Voltage offset	

Table 5: Parameter menu part 1 (parameters in brackets are only visible with "service mode" access rights)

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[3] Parameter selection defined by the operator, see chapter Definition of Favorites on page 37.

[4] Only with installed ribbon save option

[5] Only with Print > Material > Ribbon > Ribbon autoecon. = "On"

[6] Only with Print > Material > Label > Punch mode = "Manual"

Dispenser		Options		System		
DispenseMode		At this point appear the submenus with parameters for options if options are built into the machine. For details refer to the service manual.		Accessauthoriz.		
Real 1:1				(Operator password)		
├	Dispensingmode			(Supervisor password)		
└	Max InitFeedback			(Service password)		
Speed				Factorysettings		
├	Printspeed			Custom defaults		
└	Feedspeed			SetupWizards		
Start Signal				(Run SetupWizard?)		
├	Startoffset	Sensor type		Turn-onmode		
├	Startprintmode	Keyboard		Hardware Setup		
├	Application mode				├	(Printertype)
├	Starterrorstop				├	Timezone
├	Productlength				├	Realtime Clock
├	Multi label mode				└	Head-sensor dist
├	Label 2 offset [7]			Print Control		
└	Label 3 offset [8]				├	Miss.labeltol.
Dispenseposition					├	Gap detect.mode
Dispensingedge					├	Max InitFeedback
Headdispdist. [9]					├	Ribb.stretching
Displaymode					├	Singlestartquant
Dispensecounter					├	Reprintfunction
Disp.Cnt.Reset					├	Ribbonendwarn.
					├	Ribbonwarnstop
					├	Errorreprint
					├	Single-jobmode
					├	Temp.reduction
					└	Print info mode

Table 6: Parameter menu part 2 (parameters in brackets are only visible with "service mode" access rights)

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[7] Only with Dispenser > Start Signal > Multi label mode = "x labels/start"

[8] Only with Dispenser > Start Signal > Multi label mode = "x labels/start" with x=3

[9] Only with Dispenser > Dispensing edge = "User defined"

Printer Language		Printer Language (cont.)	Interface	
PrintInterpret.	├	Command^JM	Print interface	
EasyPlug Setting	└	Command^MD/^SD	Network	
├ Characterfilter			├	IP Addressassign
├ Charactersets			├	IP address
├ EasyPlugerrors			├	Net mask
├ EasyPlugwarning			├	Gatewayaddress
├ Spoolermode			├	Portaddress
├ StandAloneInput			├	DHCPhostname
├ #VW/IInterface			└	Services
├ PrinterIDno.				├ WEB server
├ Command sequence				├ FTP server
└ Ignore #IM cmd.				├ WLAN
ZPL Setting [10]				├ (MQTT broker)
├ Manualcalibrate				├ (MQTT broker IP) [11]
├ Darkness				├ Timeclient
├ Labeltop				├ Time server IP [12]
├ LeftPosition				├ Time zone [12]
├ ErrorIndication				└ Sync. interval [12]
├ ErrorChecking			Serial Port 1	
├ Resolution			├	Baudrate
├ 305 DPI scaling			├	No. ofdatabits
├ ImageSave Path			├	Parity
├ LabelInvert			├	Stopbits
└ Commands			├	Datensynchro.
├ FormatPrefix			└	Frameerror
├ ControlPrefix			Drives	
├ DelimiterChar			├	Drive C
├ Command^PR			├	DriveD
├ Command^MT			└	Drive E
			Home mode	

Table 7: Parameter menu part 3 (parameters in brackets are only visible with "service mode" access rights)

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10 Only visible with Printer Language > Print Interpret. = "ZPL Emulation"

11 Only visible with Interface > Network > Services > MQTT broker = "External server"

12 Only visible with Interface > Network > Services > Time client = ""Automatic" or "Time server IP""

Tools	Tools (continued)	Info
Diagnostic	Internal Flash	ModelID
├ (Usermodified) [13]	├ Copy from USB [14]	Status Printouts
├ Parameter 1	└ Delete Dir	├ Printer Status
├ ...		├ MemoryStatus
└ Parameter n		├ Font Status
├ Store Parameters		├ ServiceStatus
├ Gen.SupportData		├ Dottestendless
├ EasyPl. file log [15]		├ Dottestpunched
├ Log files delete [15]		└ Referencelabel
├ EasyPlugMonitor		Statistics
└ EP MonitorMode		└ Print head
Test		├ Headrunlength
├ Sensortest		├ Headstrobes
└ Printtest		├ Totalheadmoves
(Service)		├ Operationtime
├ (Servicedone)		├ Contrastdistribution
├ (Headexchange)		├ Headpressure distribution
├ (Rollerexchange)		├ Thermaldistribution
└ (Serv.datareset)		└ Printspeed distribution
(Adjustment)		├ Headrunlength
├ (SensorAdjust)		├ Rollrunlength
├ (Matendtolerance)		├ Totalheadmoves
├ (Feedadjustlabel)		├ Serviceoperations
├ (Feedadjust)		├ Headnumber
├ (Vorw feed rat.)		├ Rollnumber
├ (Backw feed rat.)		├ Tot.mat.length
├ (Punchycalibr.)		├ Tot.ribb.length
└ (Head idle adjust)		├ Headstrobes
		├ Operationtime
		└ TotalOperation

Table 8: Parameter menu part 4 (parameters in brackets are only visible with "service mode" access rights)

---

13 Parameters, whose settings differs from the factory setting.

14 If an external flash memory is connected.

15 Only visible with Interface > Drives > Drive C ≠ "None"

Info (continued)		Info (continued)		Info (continued)	
System		└ CPU board data		└ TPH power	
	└ Machine Data		├ CPU identifier		├ Module name
	├ Serialnumber		├ FPGAversion		├ Modulepartnumb.
	├ Product code		├ Module name		├ Serialnumber
	├ Company name		├ MAC Address		├ Productiondate
	└ Production date		├ Modulepartnumb.		├ CAN MAC address
	└ Module FW. Vers.		├ PCB partnumber		└ Moduletype
	├ Systemversion		├ Serialnumber		└ BasicIO
	├ System revision		├ Productiondate		├ Module name
	├ Systemdate		└ Moduletype		├ Modulepartnumb.
	├ Operatorpanel	└ Operator panel			├ PCB partnumber
	├ Ribbonunwinder		└ Serialnumber		├ Serialnumber
	├ Ribbonrewinder	└ Ribbon unwinder			├ Productiondate
	├ TPHPower		├ Module name		├ CAN MAC address
	├ BasicIO		├ Modulepartnumb.		└ Moduletype
	├ 8IO 1 [16]		├ Serialnumber		└ 8IO 1 [16]
	├ 8IO 2 [17]		├ Productiondate		├ Module name
	├ Materialrewind		├ CANMACaddress		├ Modulepartnumb.
	└ Materialpull		└ Moduletype		├ Serialnumber
	└ Memory Data	└ Ribbon rewinder			├ Productiondate
	├ RAM memorysize		├ Module name		├ CAN MAC address
	├ Space for RAM disc		├ Modulepartnumb.		└ Moduletype
	├ Storage media		├ Serialnumber		└ 8IO 2 [17]
	├ Internal Flash		├ Productiondate		├ Module name
	├ USB1 [18]		├ CAN MAC address		├ Modulepartnumb.
	├ USB2 [19]		└ Moduletype		├ Serialnumber
	├ Spooler size				├ Productiondate
	├ SpaceforJobs				├ CAN MAC address
	├ Max.Labellength				└ Moduletype
	└ Customdefaults				

Table 9: Parameter menu part 5 (parameters in brackets are only visible with "service mode" access rights)

---

16 Only with 8IO board installed

17 Only with 2nd 8IO board installed

18 If any external flash memory is connected.

19 If a 2nd external flash memory is connected.

Info (continued)			Info (continued)		
└	Material rewind		Measurements		
	├	Module name	├	Ribb. rest length	
	├	Modulepartnumb.	├	Ribbon diameter	
	├	Serialnumber	├	Ribb. rewinder Ø	
	├	Productiondate	├	Mat. rewinder Ø	
	├	CAN MAC address	└	Head temperature	
	└	Moduletype			
└	Material pull				
	├	Module name			
	├	Modulepartnumb.			
	├	Serialnumber			
	├	Productiondate			
	├	CAN MAC address			
	└	Moduletype			
└	Power supply				
	├	Module name			
	├	Modulepartnumb.			
	├	Serialnumber			
	├	Productiondate			
	├	Moduletype			
	└	Version			
└	Print head				
	├	Module name			
	├	Modulepartnumb.			
	├	Serialnumber			
	├	Productiondate			
	├	Moduletype			
	├	Resolution			
	├	Width			
	└	Resistance			

Table 10: Parameter menu part 6 (parameters in brackets are only visible with "service mode" access rights)

Parameter Reference

Print contrast

Setting range	Default setting	Step width	Easy Plug
[1...110] %	65%	1	#!H, #PC2045

> CAUTION!
>
> The parameter Print contrast affects directly the life durance of the print head. It counts: „The higher the setting of Print contrast is, the lower is the life durance 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 width	Easy Plug
[1.0...3.0]	2.0	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 width	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 width	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	Default setting	Step width	Easy Plug
XPA 934: [3.0..12.0] Inch/s XPA 935/936: [3.0..10.0] Inch/s	8.0 Inch/s	0.2 Inch/s	#PC1003, #PR

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

Setting range	Default setting	Step width	Easy Plug
--	--	--	#!CA

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

Delete Spooler

Setting range	Default setting	Step width	Easy Plug
--	--	--	#!CA

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

Print method

Settings	Default setting	Step width	Easy Plug
Thermo transfer, Thermal printing	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)

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 width	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 width	Easy Plug
[5...max. label length [20]]	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 width	Easy Plug
6,0...max. width [21]	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.

Label sens. type

(Label sensor type)

Settings	Default setting	Step width	Easy Plug
Punched, Reflex	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

---

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

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

‖ – the combined sensor is activated (Options > Sensor type = "Combined sensor") ‖

Ribbon width

Settings	Default setting	Step width	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 width	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 width	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 width	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 width	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! ‖

Ribbon end warn.

Setting range	Default setting	Step width	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 width	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 width	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 44.

Ribbon autoecon.

(Ribbon automatic economy)

Setting range	Default setting	Step width	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.

- *On*: Ribbon automatic economy mode is on

- *Off*: Ribbon automatic economy mode is off

Head down lead

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

Setting range	Default setting	Step width	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.

Ribb. eco. limit

(Ribbon economy limit)

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

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

The ribbon economy limit determins 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 width	Easy Plug
Head up, Head down	Head up	--	#PC2058

- *Head up*: The printhead is *lifted* during label material initialization and labelfeeding..

- *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.

Sensor type

Determines the installed sensor type.

Settings	Default setting	Step width	Easy Plug
Standard, Combined sensor	Standard	--	#PC5006

- *Standard*: Light transmission sensor.

With this setting, only the "Punched" setting is available for selection in the Print > Material > Label > Label sens. type parameter.

- *Combined sensor*: Combination of light transmission and reflex sensor.

With this setting, the "Punched" and "Reflex" settings are available for selection in the Print > Material > Label > Label sens. type parameter.

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

EXPERTS 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.
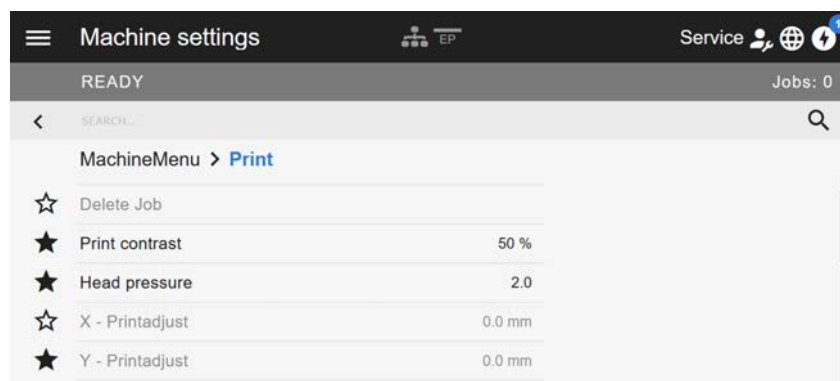
Fig. 20: Machine settings view in the web panel. The stars to the left of the parameters mark the favorites. Filled star = parameter selected for favorites menu.

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

Startup

SWITCHING THE MACHINE ON/OFF

Switching the machine on
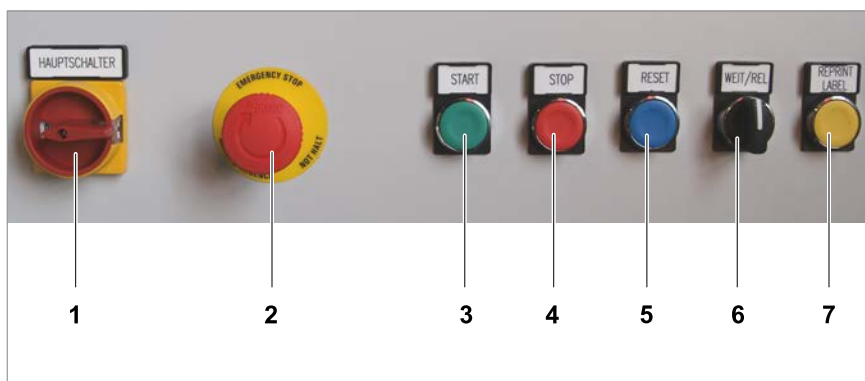
Fig. 21: Operating elements at the XPU.

Procedure

1. Turn the main switch (1) 90° to the right (position "1").
   The red signal lamp flashes because the printer is not yet switched on.

2. Open the cabin door.

3. Set the mains switch (A) of the printer to "I" (On):
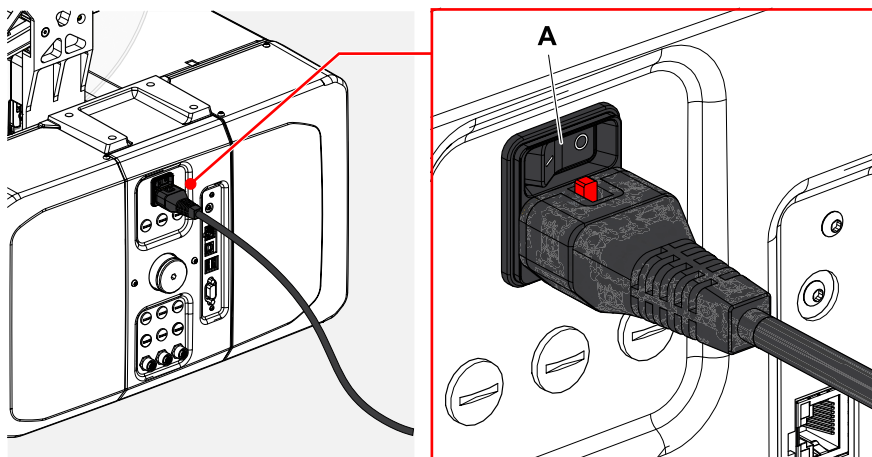
4. Close the cabin door.

5. Press the reset button (5).
   The signal lamp lights up red.

What to do next

Starting the machine.

Starting/stopping/switching off the machine

Starting the machine

║ The procedure described below concerns the XPU after switching it on or after stopping it, not after an emergency stop or an error. ║

Prerequisites:

- Machine is switched on
- Consumables are inserted
- Printer is ready for operation
- The signal beacon lights red.
- ► Press the START button (3).

The XPU is now ready for operation and is waiting for a start signal. The signal beacon switches to green.

Starting after an emergency stop

After an preceding emergency stop, the XPU has to be started as follows:

1. Ensure that
   – the emergency stop button is unlocked (pulled out)
   – the cabin door is closed
2. Press the RESET button (5).
3. Press the START button (3).

Stopping the machine

Prerequisites:

- Machine is operating
- Signal beacon lights green
- ► Press the STOP button (4).

After having finished the current application cycle, the XPU stops. The signal beacon switches to red.

Emergency stop

► Press the EMERGENCY STOP button (2).

║ Alternatively, the emergency stop is triggered by opening the cabin door during operation. ║

All movements of the XPU are stopped immediately. The signal beacon switches to red.

Switching off the machine

Prerequisites:

- Machine is operating

- Signal beacon lights green

► Stop the machine.

► Turn the main switch (1) 90° to the left (position „0").

MECHANICAL SETTINGS AT THE PRINTER
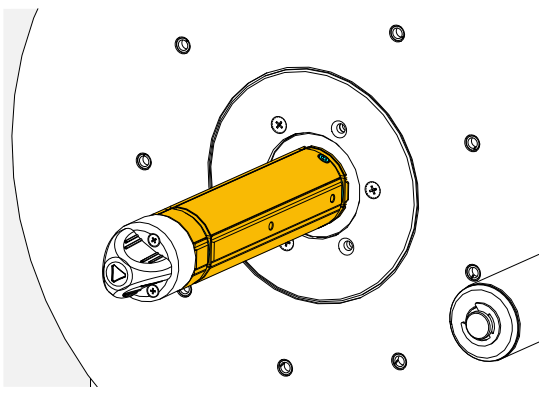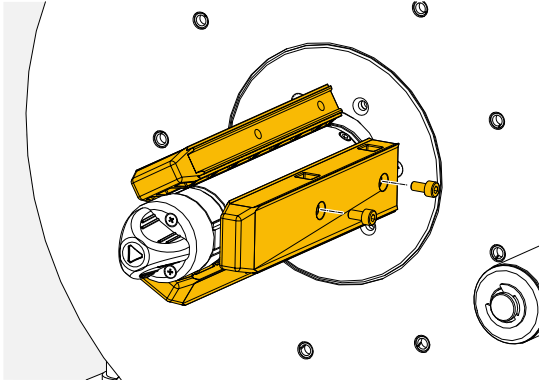
Adjusting the Core Diameter (Unwinder Pro 300)
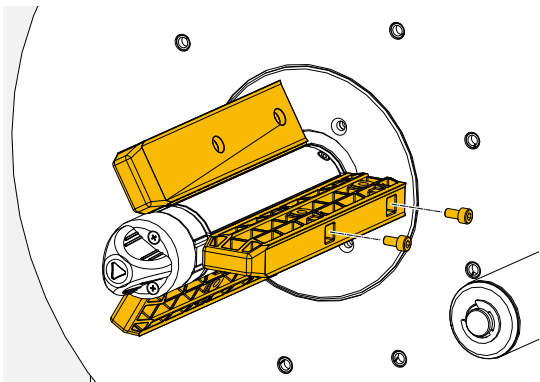
Before operation, the mandrel of the unwinder Pro 300 must be adapted to the core diameter of the label roll.

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	

Inner Ø label roll	Adapter	
101.6 mm (4")	vertical	

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. ‖
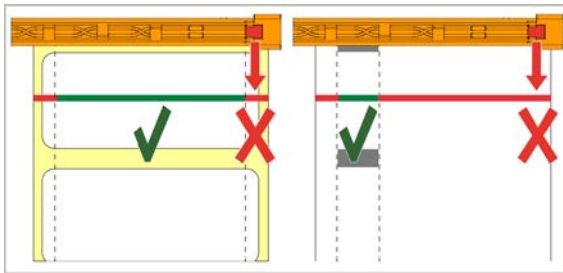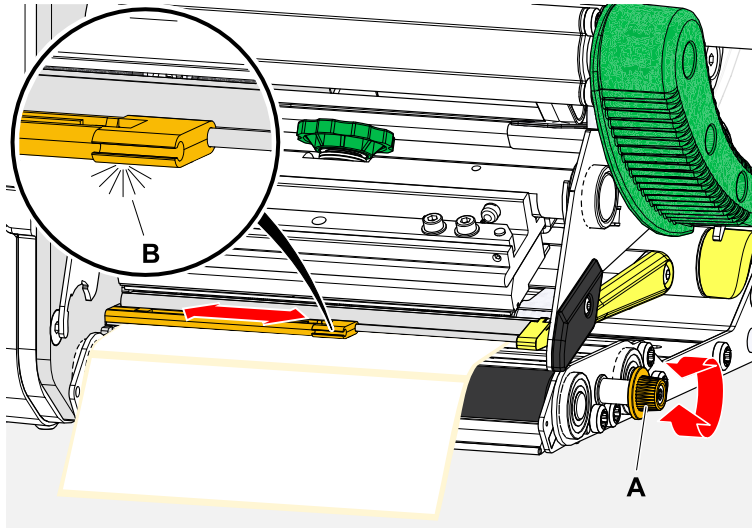
3. Close the print head pressure lever.

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 43
- Material width on page 44
- Material type on page 44
- Print process on page 44
- Temperature Compensation on page 44

Label pitch

► Toggle to the "Home" screen.

A) To measure label pitch automatically:

► Press the keys 3 + 4.

Fig. 22: 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. 23: Dispay 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.
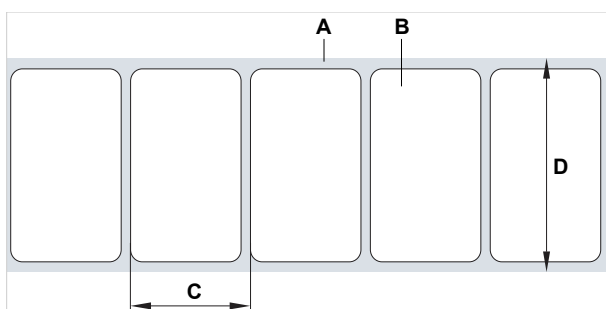
Fig. 24: Label material (self-adhesive labels) (**A**: Label web (backing paper), **B**: Label, **C**: Label pitch, **D**: Material width)

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 11: Parameters for setting the temperature compensation.
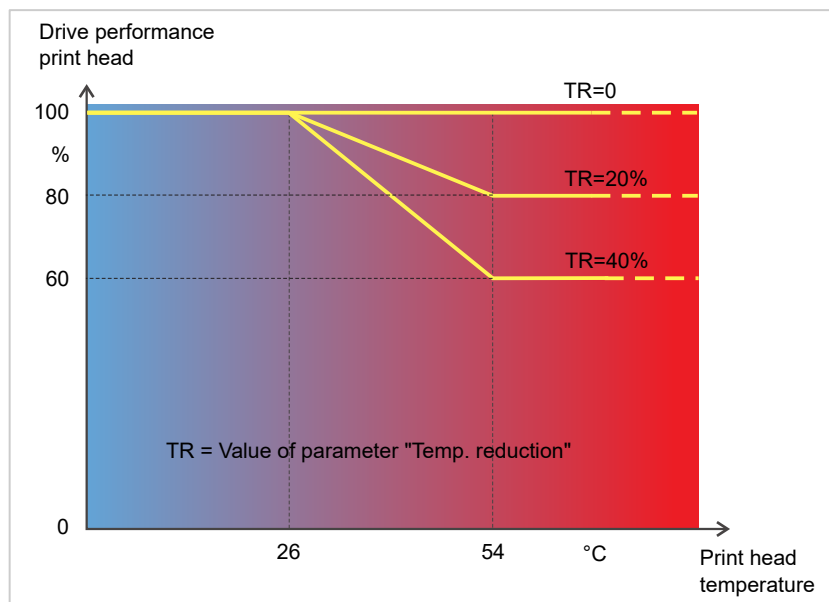
Fig. 25: With the parameter System > Print Control > Temp. reduction activated, the driving power of the print head – and therefore indirectly the print contrast – are reduced. Reduction starts at a temperature of 26°C. The maximum value is maintained at 54°C and above.

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 46
- Ribbon reserve on page 46
- Ribbon end on page 47
- Material stock on page 47
- Material end on page 48

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):
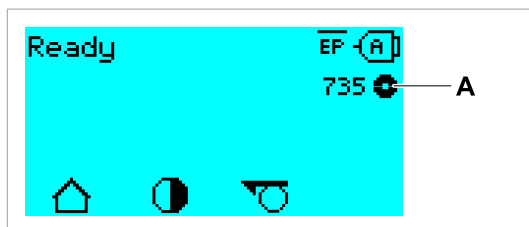
Fig. 26: Display of the remaining ribbon length (A, here: 735 m).

‖ 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. ‖
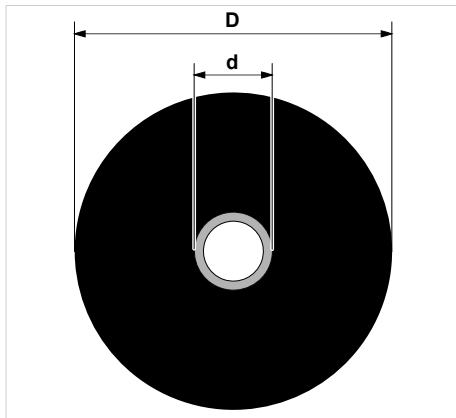
Fig. 27: Outer (D) and inner (d) diameter of the ribbon roll.

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

• *On*: Printer shows ribbon warning and shorty 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 , 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.

Operation

SWITCHING ON THE MACHINE

See chapter "Switching the machine on" on page 38.

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

Before you begin

- Rewound backing paper was removed
- Machine is stopped ("Home" screen)
- 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
- The warnings for loading label material have been read and understood (see "Inserting and removing label material" on page 50)

Procedure

Inserting a label roll:

1. Push the material roll onto the unwinder until it stops:
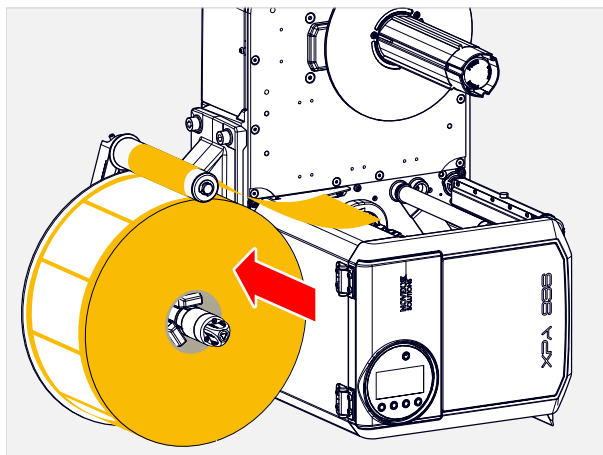
2. Turn the handle clockwise until the roll is firmly seated:
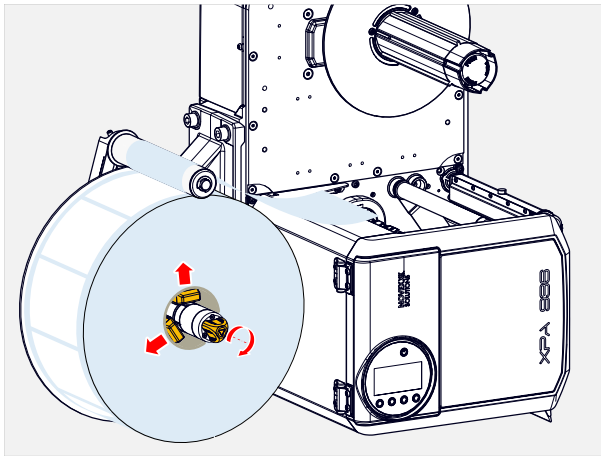
3. Lay the label web as illustrated around the dancer arm (fig. above).

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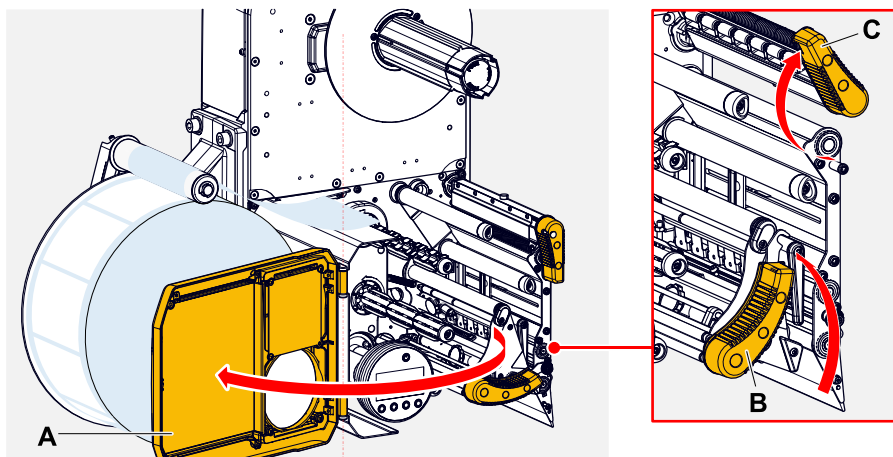
6. Open the pressure levers on print head and draw roller (fig. above, pos. B, C).

7. Thread in the material web as illustrated.

‖ *Yellow parts mark the material path through the machine.* ‖
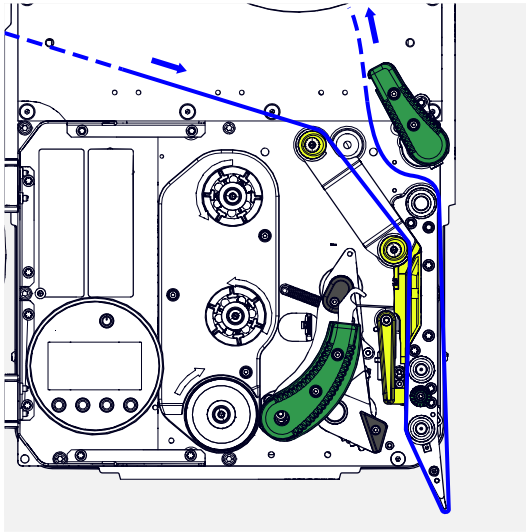
8. Push the material web backwards until the material edge rests against the rear material guide. Loosen the knurled screw (B) under the front material guide (A) and push the material guide up to the front material edge. Tighten the knurled screw again.

‖ The label material should move easily between the guides. ‖
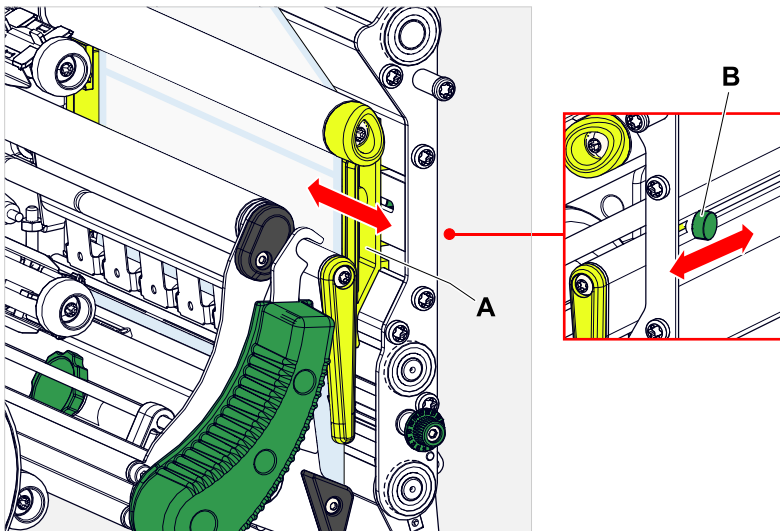
Attach the label web to the rewinder:

9. Return the backing paper under the print module.

10. Place the end of the material web counterclockwise around the rewinder and push it under one of the bolts (A) at the inner edge:
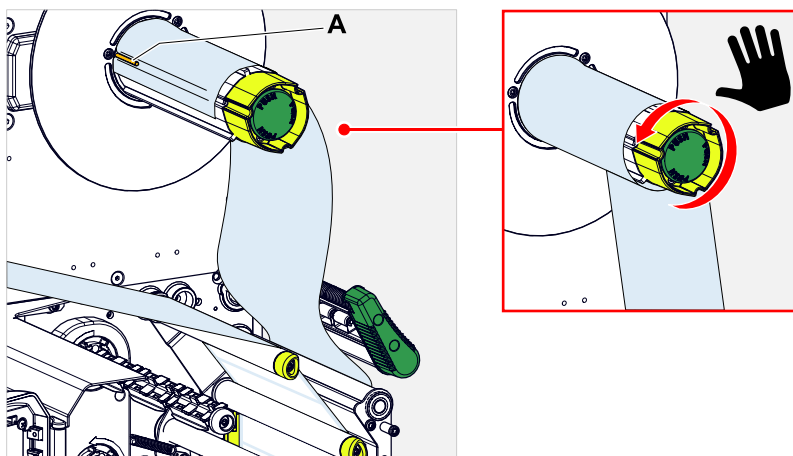
11. Turn the rewinder counterclockwise until the end of the material web can no longer release itself (top right picture).

12. Check the course of the material in the material guide and, if necessary, correct it. Close the pressure lever on the draw roller and print head (see picture below).

‖ IMPORTANT: Tighten material web before closing the pressure levers! ‖
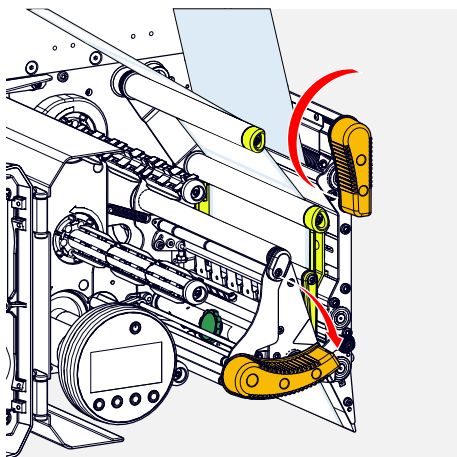
What to do next

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

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 50)

About this task

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

Procedure

1. Cut backing paper before rewinder:
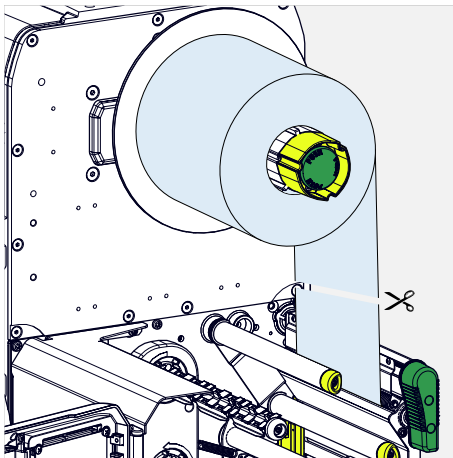
2. Press unlocking button on rewinder:
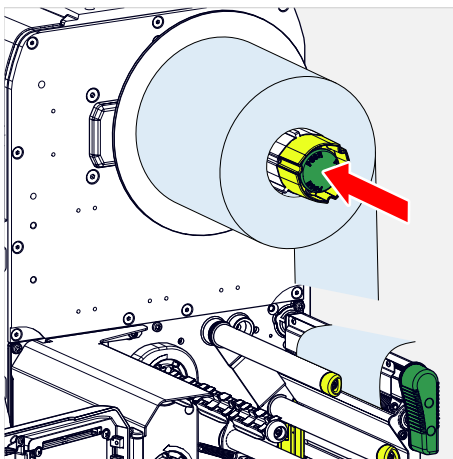
3. Pull off the wound up backing paper:
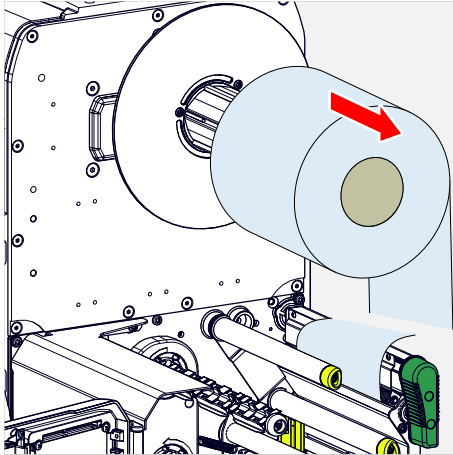
INSERTING AND REMOVING RIBBON

⚠	**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 56)

Procedure

1. Open the front hood (A):
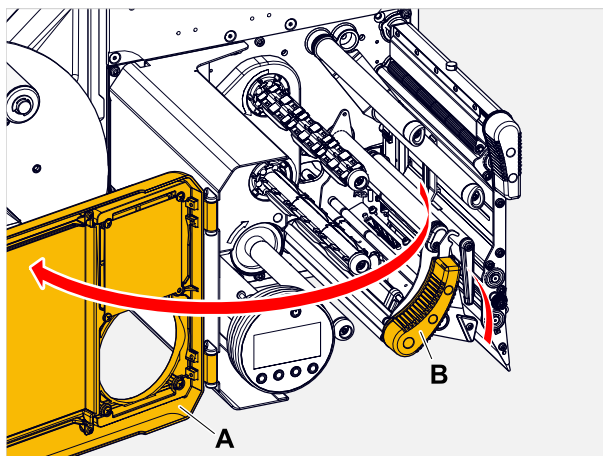
2. Open the pressure lever on the print head (B, figure above).

3. Push the empty cardboard sleeve onto the rewinding mandrel until it stops (A):
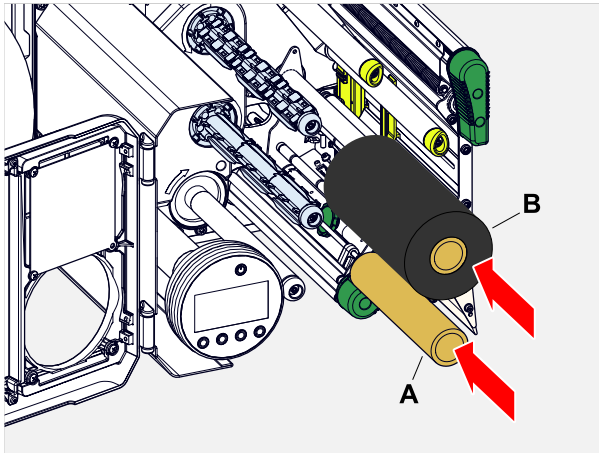
4. Push the ribbon roll onto the unwinding mandrel until it stops (B, figure above).

> 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:
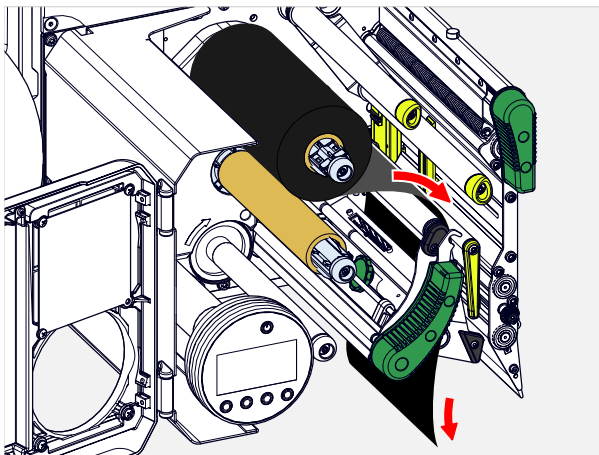
6.

> 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).
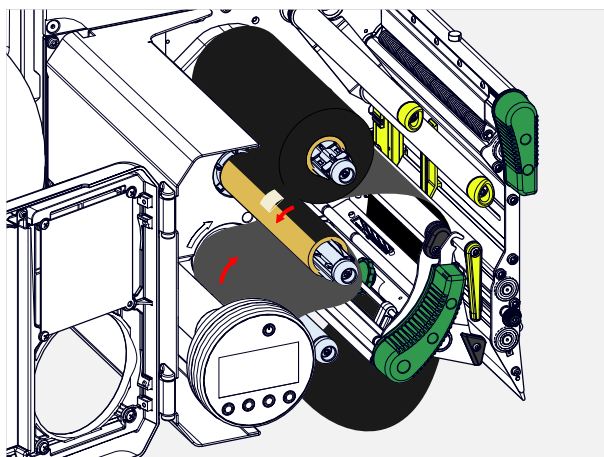
7. Rotate the rewinding mandrel a few turns in a counter-clockwise direction until the ribbon is free of folds:
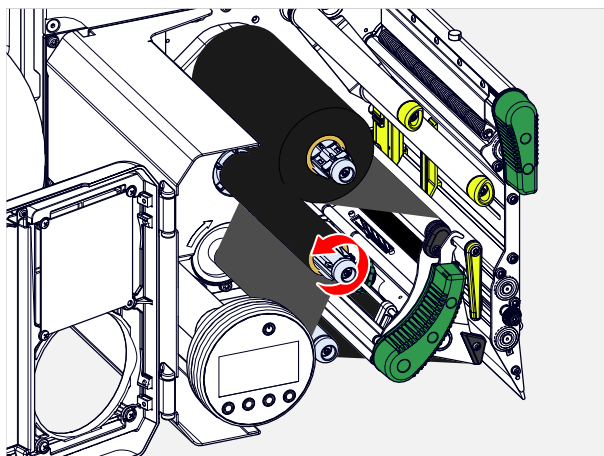
8. Close the pressure lever and the front hood.

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 34

  – Color Side on page 34

  – Ribbon length on page 34

  – Outer ribbon Ø on page 34

  – Inner ribbon Ø on page 34

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 re-moving ribbon" on page 56)

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 re-moved 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):
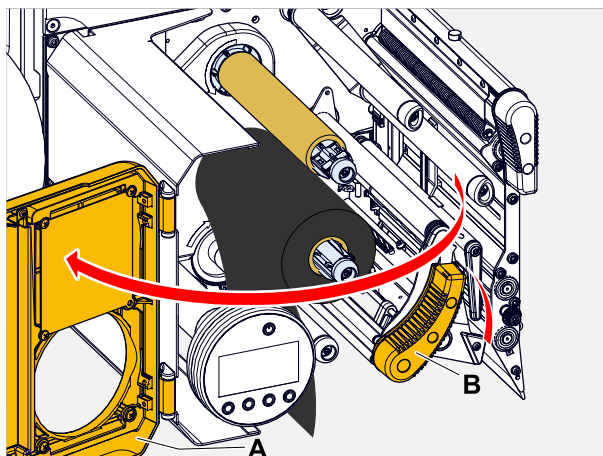
2. Open the pressure lever on the print head (B, figure above).

3. Pull the roll of used ribbon from the rewinding mandrel:
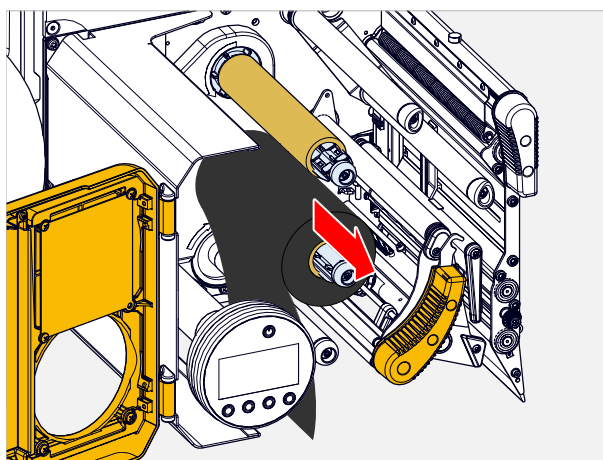
4. Remove the empty cardboard sleeve from the unwinding mandrel and push it onto the rewinding mandrel.
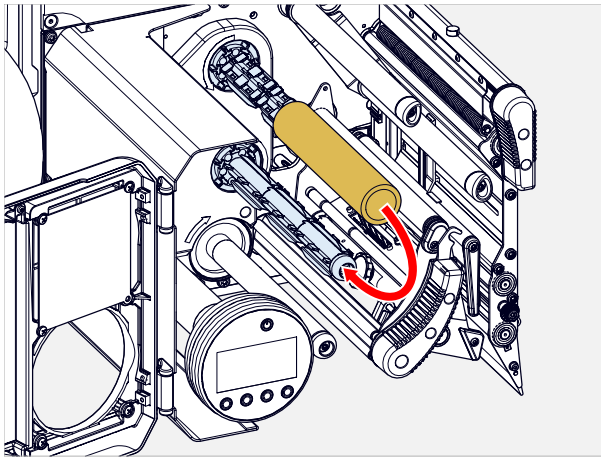
5. Clean the print head.

What to do next

Inserting a new ribbon roll.

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 process-ing). Special label layout software is more suitable, for example NiceLabel [22]. Prerequisite is an installed printer driver.

Find the appropriate *printer driver* and an installation instruction on our web page [23]. 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*

EXPERTS 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 tranfer 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.

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

Describes how to tranfer 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:

a. Press the ⊞ key. The start menu opens.

b. Type "System Information" into the search field. The window "System Informations" opens.

c. 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:

a. Press the ⊞ key. The start menu opens.

b. Type "Printers & scanners". Acknowledge with the Enter key. The window "Settings > Printers & scanners" opens.

c. Click on the desired printer name.

d. Click "Manage".

e. Click "Printer properties".

f. Open the "Sharing" tab (fig. below).

g. Enter a name into the field "Share name" and check "Share this printer".

h. Click "OK".
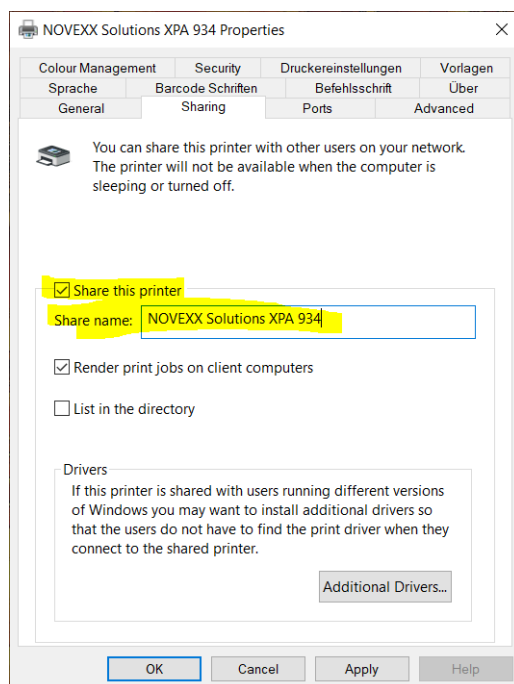
Fig. 29: Entering a share name under Windows 10.

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).
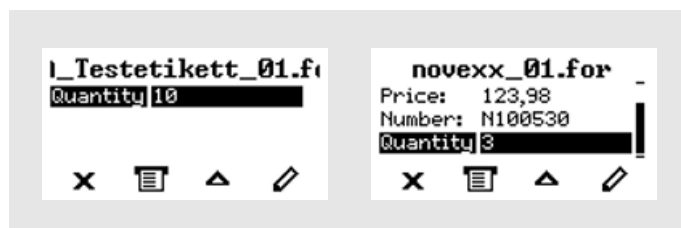
   Fig. 30: File selection in standalone mode (left: standard field for querying the print amount; right: additional data input fields)

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.
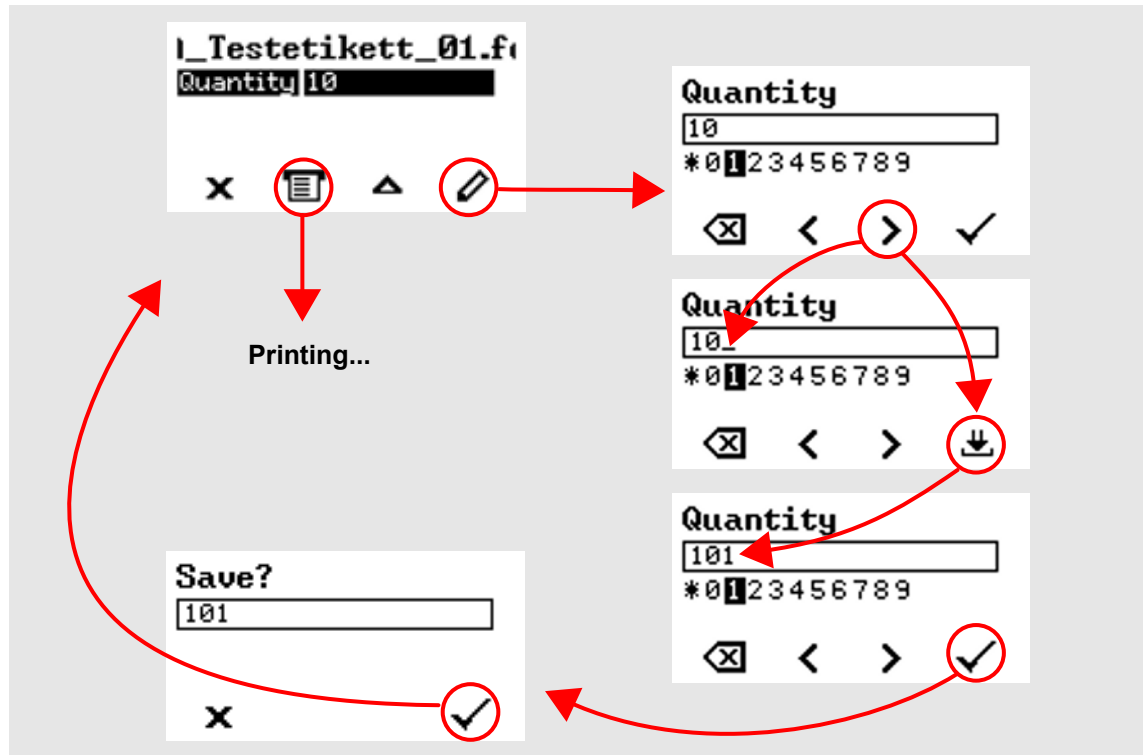
Fig. 31: Changing the print amount in standalone mode.

NOVEXX
SOLUTIONS

Starting and Monitoring a Print Job

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.
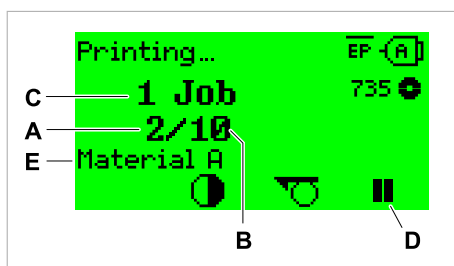
Fig. 32: Display during the printing (**A**: Already printed labels of the current print job, **B**: Labels to be printed of the current print job, **C**: Amount of queued printjobs, **D**: Pause key, stops the printing).

If the printer shows the "Home" screen:

► Press the 🖺 key, to toggle to the "Ready" screen, to start printing.

Display examples:

Fig. 33: Print job with endless print amount.

Fig. 34: Stopped print job. Press key 4 to continue printing.

Error messages

STATES OF THE SIGNAL BEACON

Fig. 35: The signal beacon on the cabin of the XPU lights green, yellow or red.

Meaning of the colors

Green	The XPU is switched on and *ready for operation*.
Yellow	*Warning*: The label material starts to run out
Ret	An *error* occured or the XPU was *stopped*

Display of errors and warnings

Red, flashing fast	*Status*: Machine stopped, applicator in home position.

Cause: Scanner failed reading barcode for several times.

Remedy:

1. Check scanner and label (check especially the correct mounting angle of the scanner).
2. Press RESET.
3. Press WEIT(er) or RE(lease) and simultaneously START (for details see below).

Red, flashing *Status*: Machine stopped, applicator extended.

Cause: Applicator was stopped by an obstacle or it didn´t reach the pallet.

Remedy:

1. Check applicator, pallet and compressed air supply.
2. Press RESET.
3. Press WEIT(er) or RE(lease) and simultaneously START (for details see below).

Red, flashing *Status*: Machine stopped, applicator in home position.

Cause: Printer error.

Remedy:

1. Check printer.
2. Press RESET.

3. Press WEIT(er) or RE(lease) and simultaneously START (for details see below).

Red   *Status*: Machine stopped, applicator extended or in home position.

Cause: Cabin door is opened or emergency stop button is pressed or emergency stop circuit is not reset.

Remedy:

1. Check cabin door and emergency stop button.

2. Press RESET.

3. Press WEIT(er) or RE(lease) and simultaneously START (for details see below).

Yellow, flashing   *Status*: Normal operation

Cause: Label material is close to end.

Remedy:

► Check printer.

► Check label stock and, if necessary, renew it.

Function of the WEIT/REL switch

After an error there are 2 possible ways to restart the XPU. The selection is done by turning the WEIT/REL switch in the appropriate direction and simultaneously pressing the START button.

WEIT   The XPU starts a new application cycle (german „WEITer" means „continue").

REL   The XPU releases the pallet (RELease).

> Operation with scanner option: After a scanner error, the barcode on the applied label was not checked for readability. It is recommended to reprint the last printed label (press LABEL button) and to attach the label manually.

DISTURBANCES AT THE PRINTER

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:
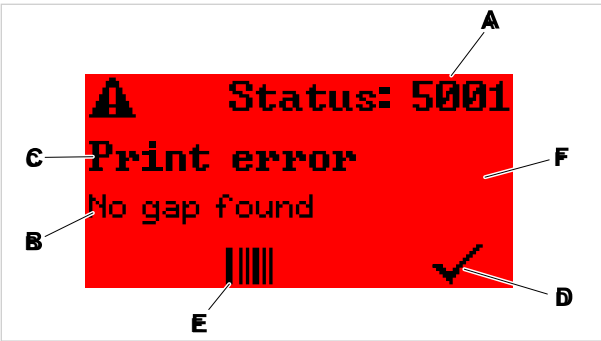
Fig. 36: Example of a status message

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 73: In the example it is the message 5001 No gap found on page 73.
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 72).
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.

USI warnings

There are also warnings that are triggered by the signal interface. These appear as an additional line of text on the display "Ready" (picture).

Fig. 37: Example of an USI warning: "Productstartwarn" .

Warning text	Cause
OD sensor warn.	*External OD control*: The material roll diameter has reached the threshold value.
Material low	*Internal OD control*: The material roll diameter has reached the threshold value.
Productstartwarn	A new start signal has arrived during the previous print-dispensing process

Table 12: Possible warnings triggered by input signals.

USI warnings are only shown in the "Ready" display and can only be acknowledged there.

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

Acknowledging USI warnings:

► Press keys 2+3.

USI status messages

These status messages are triggered by the signal interface. They provide information on whether certain signals are present.
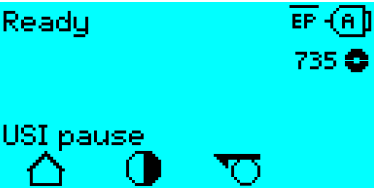
Fig. 38: Example of a USI status message .

Status message	Cause
USI pause	Signal `usi.pause` is active
USI feed	Signal `usi.feed` is active

Table 13: 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 > EasyPl. file log).

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

Not listed status reports

EXPERTS 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
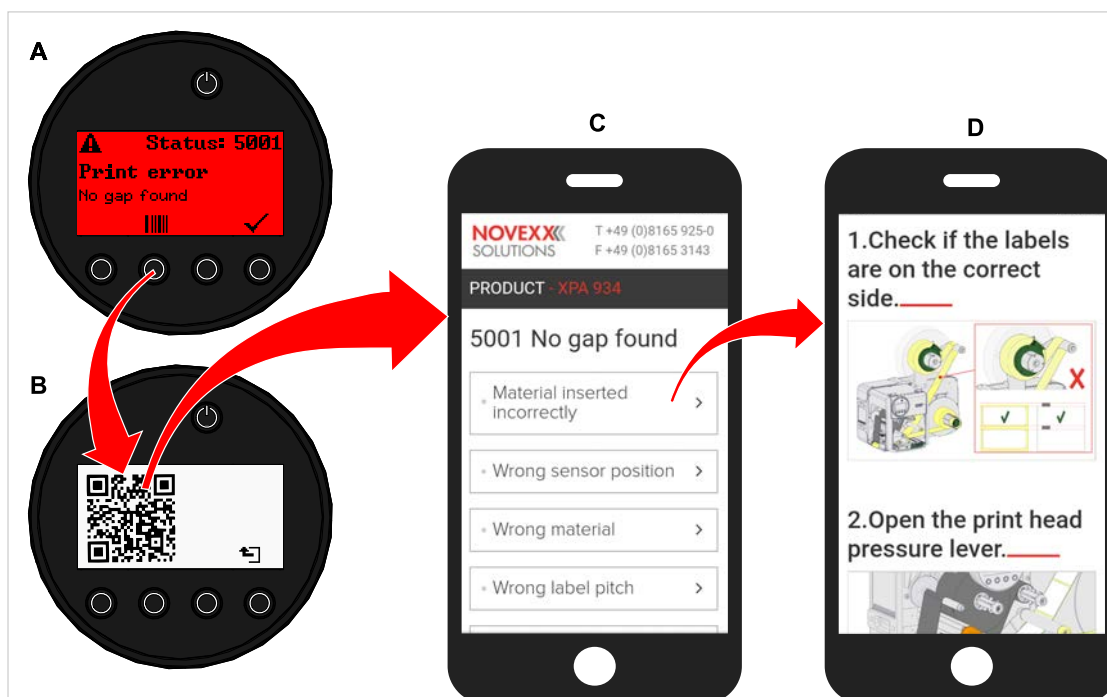
Fig. 39: If the error message has a barcode symbol (A), a QR code (B) can be used to call up troubleshooting instructions (C) on the smartphone.

> 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.	**EXPERTS** ► 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.	**EXPERTS** ► Check the sensitivity setting of the label sensor.
Label sensor is defective.	**EXPERTS** ► 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 unwinding mandrel no longer rotates. This can have various causes:

Illustrated description for troubleshooting:
Click here or scan the QR code:

Possible causes	Solution
Ribbon roll is used up.	► Insert new ribbon roll.
Ribbon was inserted incorrectly.	► Remove the ribbon completely and insert it according to the winding diagram. The ink side of the ribbon must be on the label side, not on the print head side. If the ribbon was inserted the wrong way round: ► Clean the print head before reloading the ribbon.
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: EXPERTS ► Adjust the spring plates on the ribbon unwinding mandrel so that the ribbon core is firmly seated. EXPERTS ► (Alternatively) Replace the ribbon core adapters.
Ribbon sticks to the print head.	1. Remove the ribbon. 2. Clean the print head. 3. Insert the ribbon newly.
Ribbon is torn.	► Insert the ribbon newly.

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 (setable 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

Possible cause	Solution
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.

Possible cause	Solution
Ribbon is torn	► Insert ribbon newly.
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
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.

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 71.

Maintenance and cleaning

CLEANING THE PRINTER

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!

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 14: 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
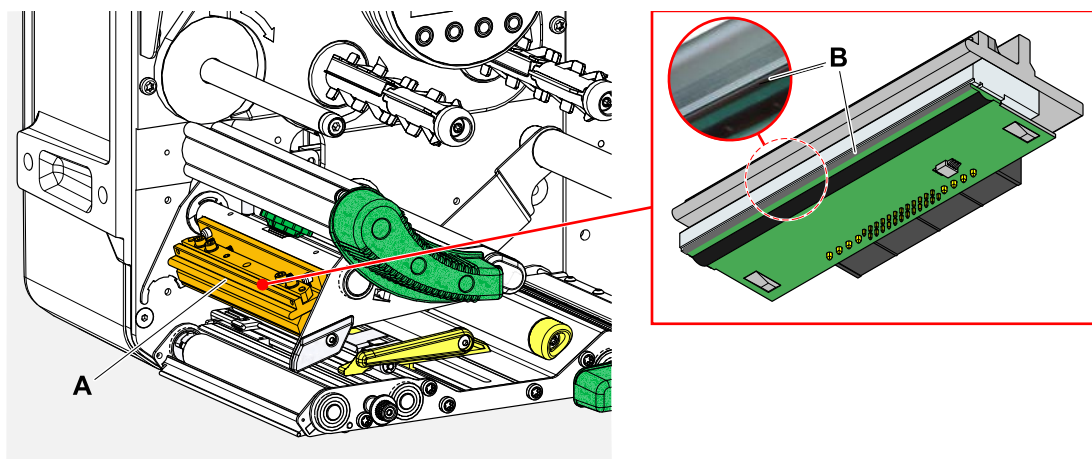
Fig. 40: **A**: Print head, **B**: Thermal strip at the print head

> ⚠ **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).
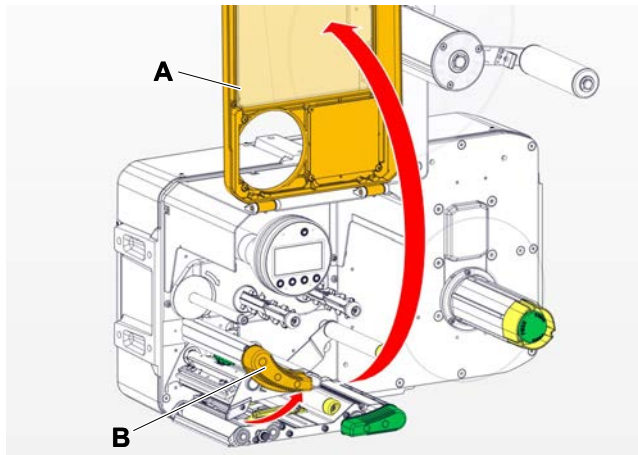
3. Open the print head pressure lever (B, figure above).

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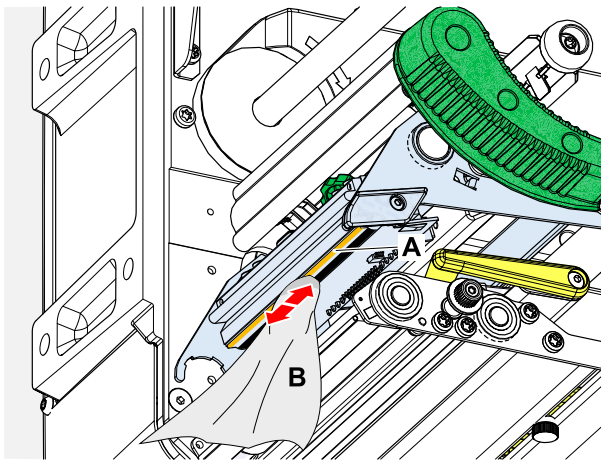
6. (Alternative) Wipe the thermo strip with a cleaning pen.

Cleaning the rubber rollers
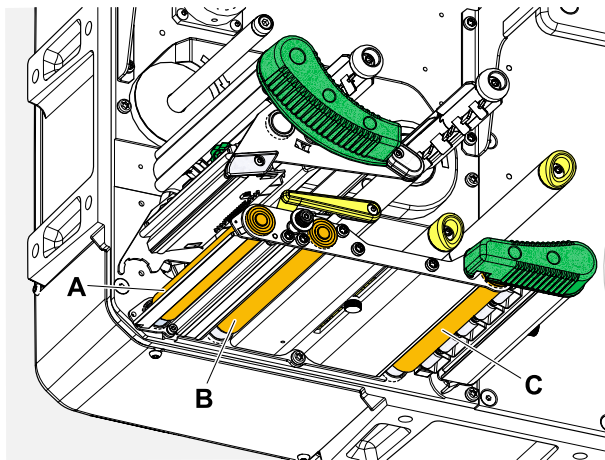
Fig. 41: Position of the rubber rollers: **A** Print roller, **B** Feed roller, **C** Draw roller

Procedure

1. Switch off the machine.

2. Open the front hood (A, figure below).
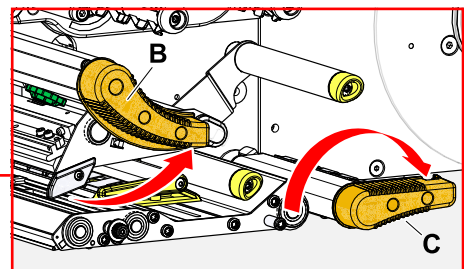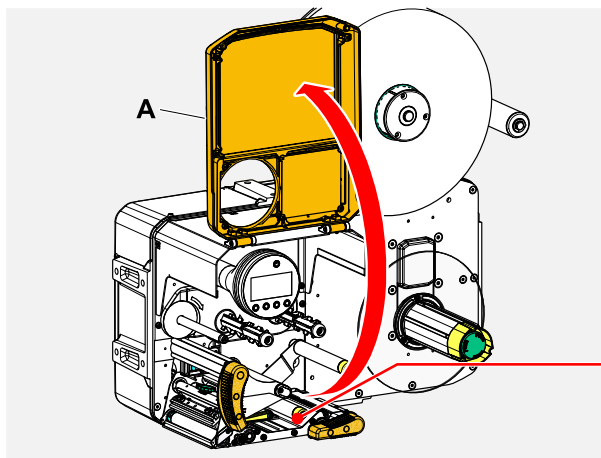
3. Open the print head pressure lever (B, figure above) and the draw roller lever (C, figure above).

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..
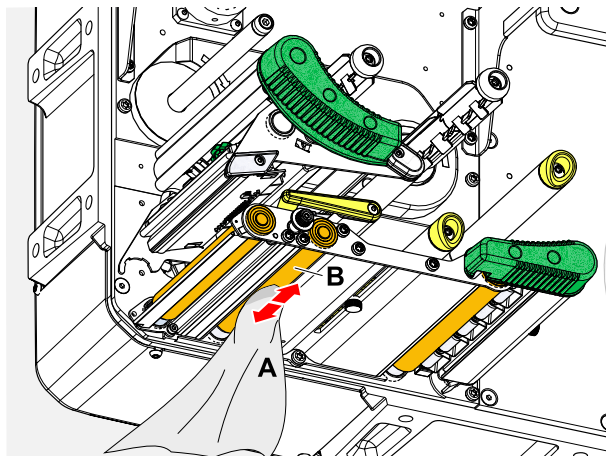
Cleaning deflection axles and rollers
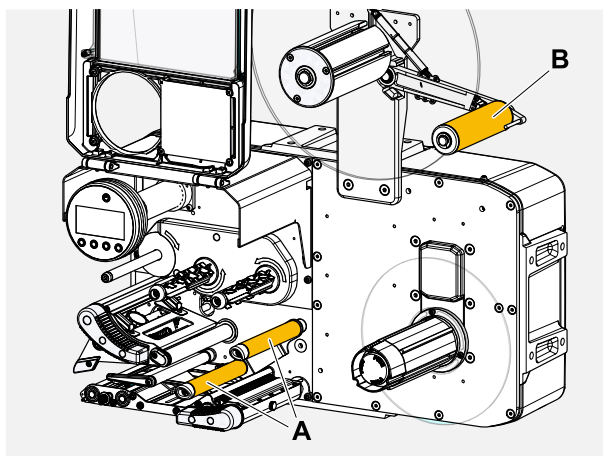
Fig. 42: Deflection axles (A) and rollers (B) at a XPA 93x.

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.
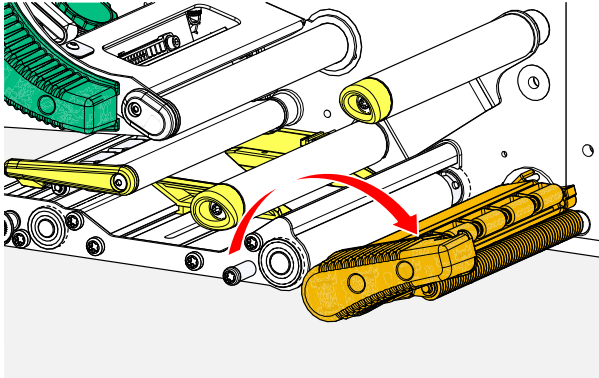
3. Moisten a lint-free cloth with methylated spirit and wipe the pressure rollers (A, B) with it (C).
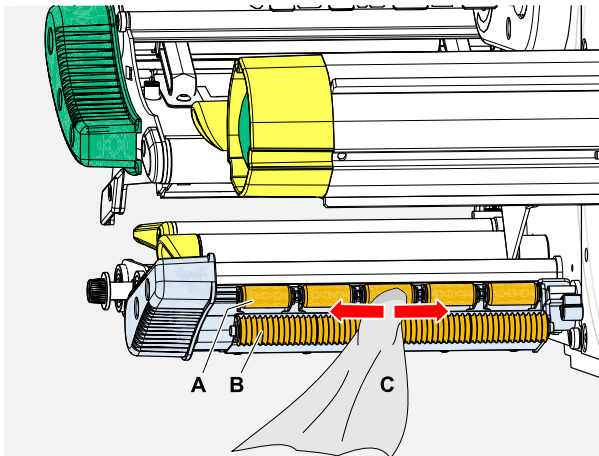
Cleaning the ribbon path
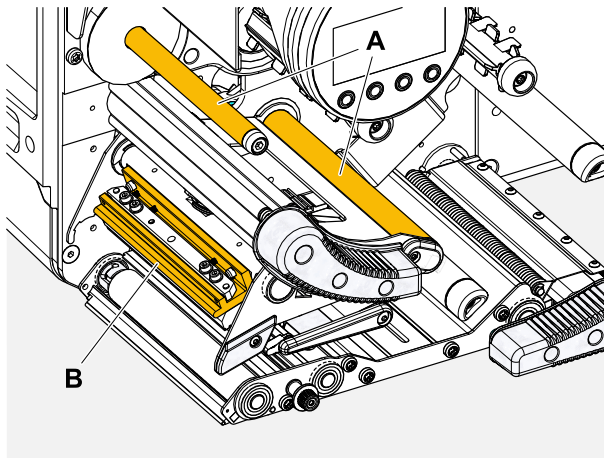
Fig. 43: Ribbon deflections at a XPA 93x (**A**: Axles, **B**: Print head nose).

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.
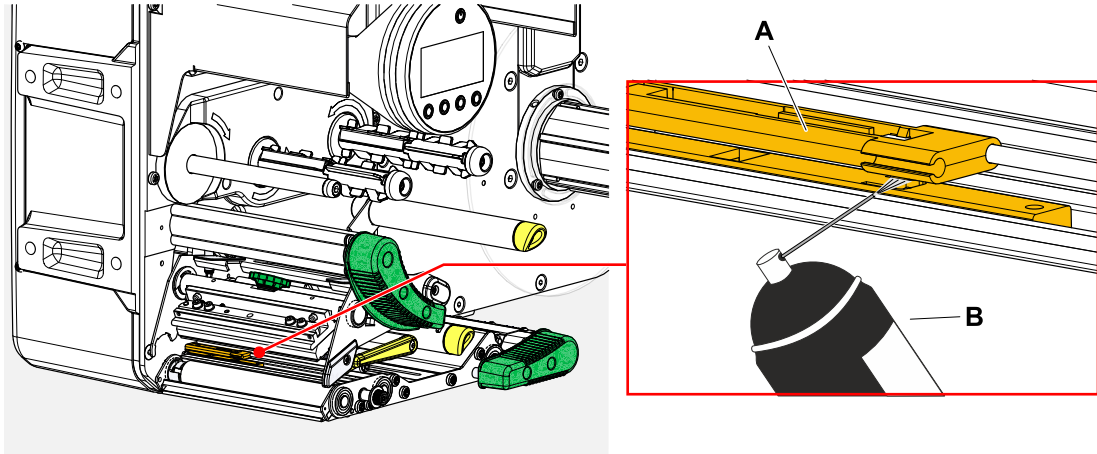
Cleaning for heavy soiling:

6. Unscrew screw (A).
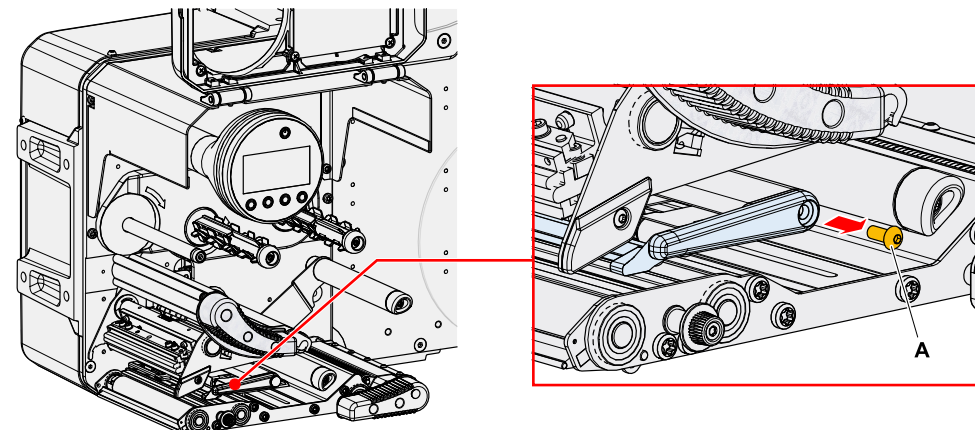
7. Pull out guiding profile (A).
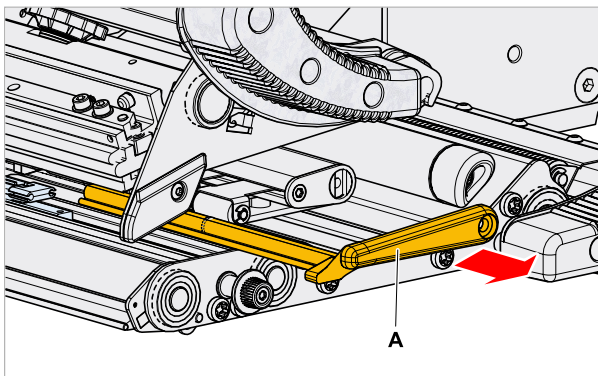
8. Move the light barrier fork all the way out by turning the setting knob (A).
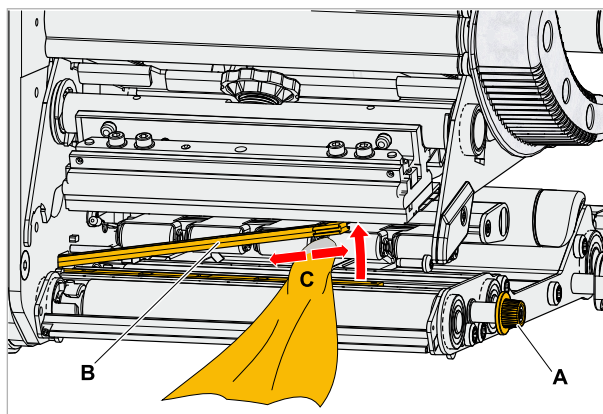
9. Carefully lift the upper part of the light barrier fork (B, figure above).

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.
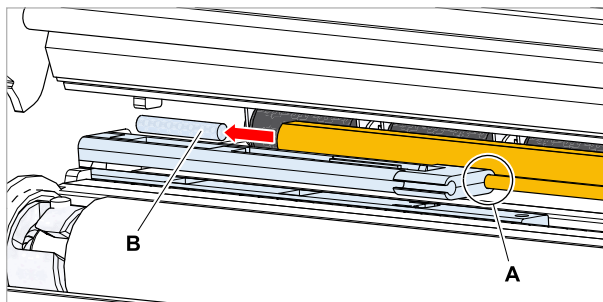
12. Screw the plastic part tight again:
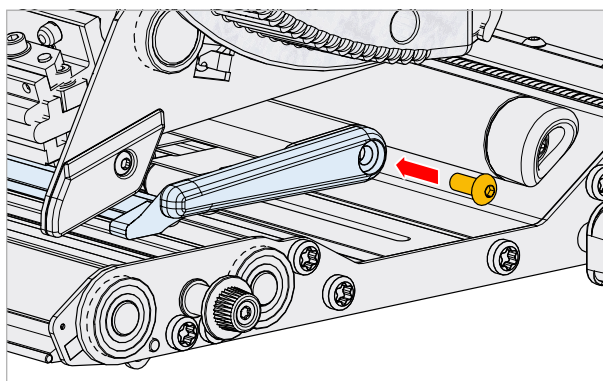
Cleaning the material end sensor

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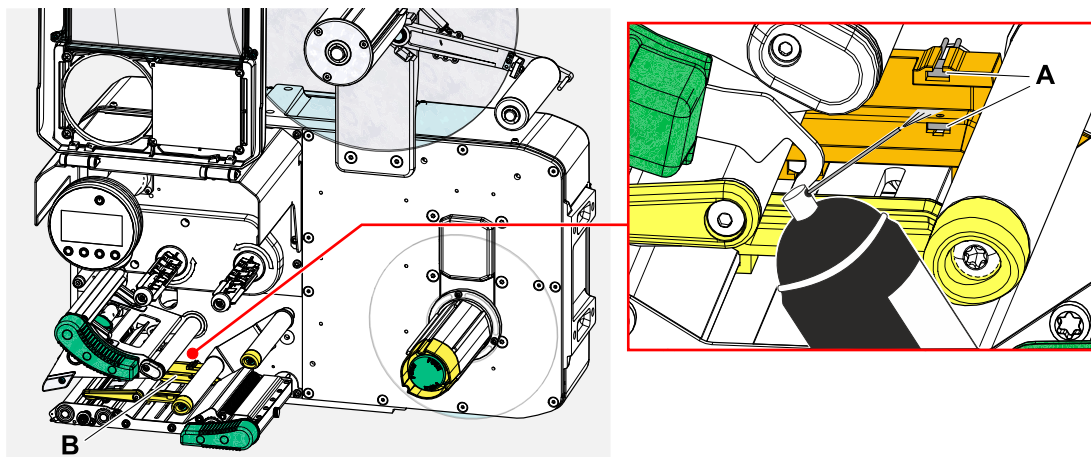
5. (If necessary) In case of heavy soiling, have the material guide removed by a service technician and additionally clean the sensor with spirit and dust-free cloth.

MAINTENANCE

Maintenance plan

The tasks listed in the table below have to be performed regularly, but *at least yearly*.

Subject	Weekly	Every 1000 hours	Task
Cleaning	X		Determine the degree of soiling of the machine: • Glue deposits at applicator plate or rollers? • Dust deposits in the printer? • Ribbon deposits at the print head? ► If necessary, clean the machine.
Compressed air service unit	X		► Drain the condensate vessel, see chapter "Draining condensate" on page 89.

Subject	Weekly	Every 1000 hours	Task
EXPERTS Grease the applicator		X	► Lubricate the linear guiding.
EXPERTS Tighten screws		X	► Check, and if necessary tighten, all screws after the first week of operation and afterwards regularly all 1000 operating hours.
Replacing filter liner		X	► Replace the filter liner at the cabin blower, see chapter Replacing the filter liner at the cabin blower on page 88.
EXPERTS Optical check		X	► All visible cables and air hoses should be checked and found free of damage. ► The springs holding the applicator in position should be inspected to see if any is broken. ► Other irregularities must be repaired.

Table 15: Maintenance plan

Replacing the filter liner at the cabin blower

About this task

The replacement interval for the filter liner must be defined according to the specific circumstances. The following factors determine the frequency:

• Dust content of the air

• Operating duration

Approximate replacement interval: after *1000 hours* operation.

The filter liner can be cleaned by blowing it out with compressed air or by washing it out.

Procedure

1. Remove the cover (1) from the liner holder. To do so, lift the cover at both sides simultaneously.
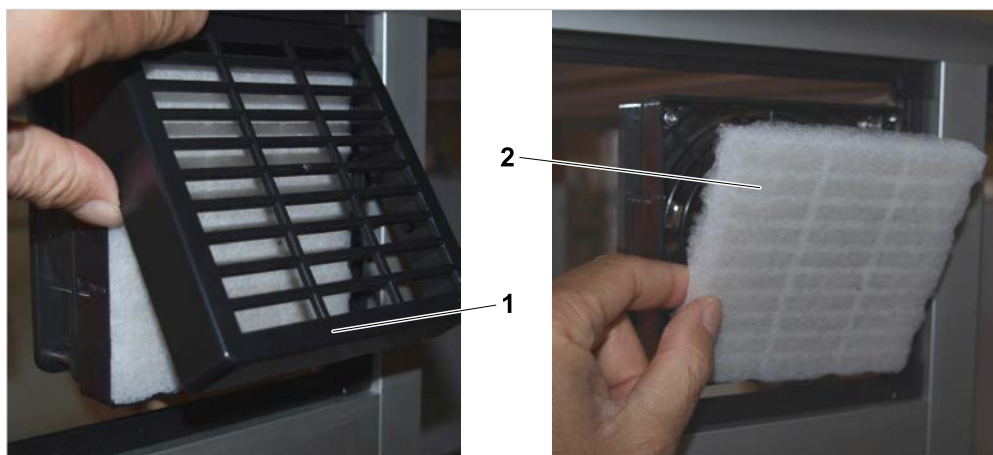
2. Replace the filter liner (2).

3. Put the cover back on the liner holder and press it on evenly on both sides.

Draining condensate

About this task

The condensate gathering in the vessel at the compressed air service unit must be drained on a regularly.
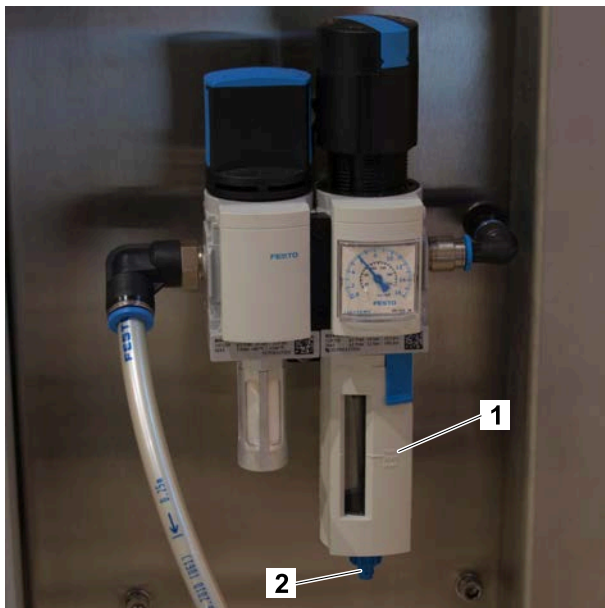
Recommended interval: weekly.

Fig. 44: Compressed air service unit at the XPU.

Procedure

1. Check, if the condensate level has reached the „Max." mark (1).

2. If the „Max." mark is reached, open the drain screw (2) at the bottom end of the condensate vessel and catch the condensate in a bucket.

3. Retighten the drain screw.

Index of parameter names and error messages