

evolis
card printers

SECURION

USER GUIDE

Evolis Card Printer © 2009. All rights reserved. August 2014.

Ref. KU08EB1



Copyright

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Trademarks

SECURION is a trademark of Evolis Card Printer. All other trademarks belong to their respective holders.

Warranty

Refer to the warranty notice supplied with your printer for warranty terms and conditions and limitations.

Environmental information – recycling of end-of-life products

The manufacture of the equipment that you have purchased required the extraction and use of natural resources. It may contain materials that are hazardous to health and the environment.
To prevent the dispersal of such materials into our environment and reduce the pressure on our natural resources, we recommend that you use existing collection systems. These systems will appropriately re-use or recycle most of the materials in your end-of-life equipment.



The crossed-out dustbin symbol on your device is a reminder to use these systems.

If you need further information on collection, re-use and recycling systems, contact your local or regional waste management body.

Do not hesitate to contact us to find out more by visiting our website at **www.evolis.com** or by emailing the following address: **info@evolis.com**.



About your new printer

Thank you for choosing an Evolis printer.

Using your new printer, you will be able to create a wide variety of high-quality cards and badges which can be printed in various thicknesses, colours and styles. This printer uses consumables and accessories available from Evolis. For further details, visit our website at **www.evolis.com**.

Warranty registration

Please register on line at **www.evolis.com** to receive our special offers and general information.

Once on the website, click on **Drivers and Support** and fill in all the fields, giving in particular the model and serial number found on your printer.

Getting started

The purpose of this user guide is to guide you, step by step, through your printer and how it works. Take some time to read it in order to better understand your printer and its features, and to save time during installation and use.

As with all Evolis products, a great deal of care has been taken over this manual. Should you find an error, however, please let us know by emailing us at **info@evolis.com**.

Contents

The bookmarks found top left of your screen can be used to navigate between the various sections in this user guide.

Icons

The following icons are used in this manual to highlight important information:



Information providing further details or depth about certain points in the main text.



Indicates that failing to take the recommended action is liable to damage your printer.



This symbol indicates that a video showing the procedure is available on the www.evolis.com website.

1 Getting started

1-1 Unpacking

Your printer is supplied with several accessories that we ask you to look at closely.
This list may vary depending on your location.

The printer is shipped in special packaging designed to prevent any damage in transit. If you notice any visible damage, do not hesitate to contact the shipper and immediately inform your Evolis dealer, who will tell you the procedure to follow.
Evolis takes great care over the quality of its packaging and we ask that you keep this packaging somewhere clean and dry.



You will be asked for the full original packaging (outer box, inner wedges and protective bags) in the event that the printer is returned. If the printer is returned without its original packaging and components are damaged in transit, these components will no longer be covered by the warranty. You will be charged for new packaging for shipping the printer back to you.

Accessories supplied with your printer:

- Power supply unit - FSP150-AAAN2.
- Main power cable.
- USB cable.
- Installation and documentation CD-ROM.
- Starter cleaning kit.
- Quick installation guide.
- Warranty notice.
- Compliance statement documentation.

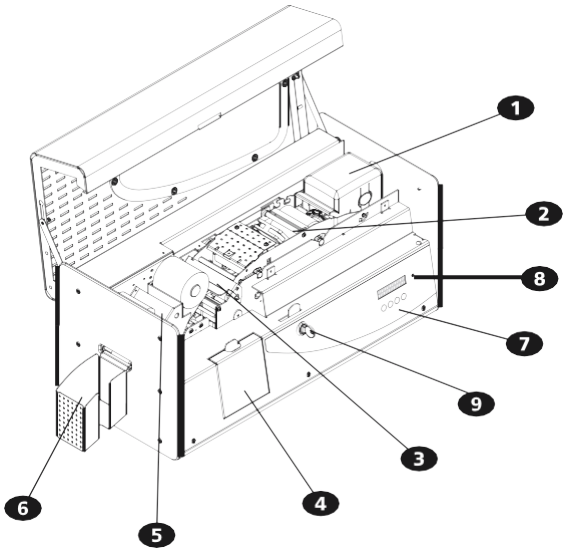
If any of these components is missing, please contact your Evolis dealer.
Use only the power supply unit supplied with your Evolis printer.
FSP150-AAAN2.
Use only the USB cable supplied with your Evolis printer.

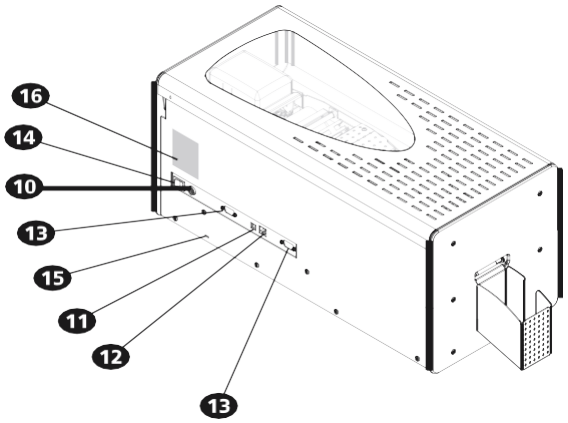
The Evolis printer must be placed in a dry location, protected from dust and draughts but well-ventilated. Take care to keep your printer on a flat, sturdy surface able to bear its weight.

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1-2 Description of the printer and its functions

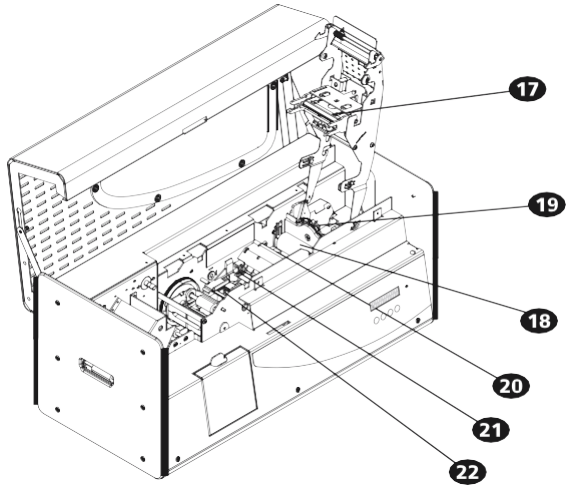






1 - 100-card input feeder
2 - Encoding and printing area
3 - Card turnover area
4 - Defective card reject hopper
5 - Card lamination module
6 - 100-card capacity output hopper
7 - 4-button control panel and 2-line LCD display
8 - LED indicator showing printer activity
9 - Centralised cover lock to secure all internal components
10 - Power supply socket
11 - Computer USB socket

1- RJ45 Ethernet socket
2 - DB9 connector(s) (option)
3 - Power supply switch
4 - Position for Kensington® lock
5 - Serial number label
6 - 300-dpi colour thermal print head
7 - Cleaning roller
8- Card thickness adjustment gauge
20 - Magnetic encoding head option
21 - Smartcard contact station
22 - Antenna for contactless card encoding (RFID)



1-3 Installation

1-3a CONNECTING THE PRINTER

ä Connection to the power supply

The printer must be connected to a properly protected and earthed electrical installation.

FI: Laite on liitettävä suojamaadoitus koskettimilla varustettuun pistorasiaan.
NO: Apparatet må tilkoples jordet stikkontakt.
SE: Apparaten skall anslutas till jordat uttag.

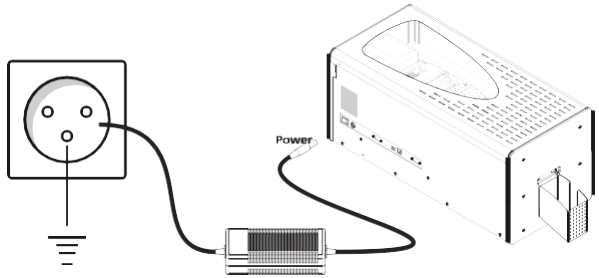
This is a Class A device. Operation of this equipment in a residential area may cause interference to radio communications. Should this occur, the user may be asked to take appropriate measures.

Ê Connect the power cable to the power supply unit, then plug the power cable connector into the printer.

Ë Next, plug the end of the power cable into an earthed power socket.

Ì Power up the printer by switching the switch to ON.

Í The display on the control panel lights up and the message 'INITIALISATION' is displayed. Once the start-up sequence has finished, the screen displays 'READY' and the LED is a steady green light. Should this not be the case, then either installation has not been carried out correctly or the printer is not working properly. Check the installation.



Before attempting any maintenance, always ensure that the power switch is in the OFF position and that the power cable is unplugged. For your personal safety, ensure that both the switch and cable remain easy to access, especially in the event of an emergency.

NOTE ***To save energy, the printer will automatically switch itself to standby mode after 10 minutes of inactivity.***

ä Connecting the USB cable

Under no circumstances should you connect the USB data cable before installation of the printer driver is complete.

Refer to the section on printer driver installation for further details, and follow the instructions carefully.

1-3b RIBBONS

Evolis original ribbons optimise your printer's operation and avoid causing damage to it. The use of ribbons from other suppliers is liable to damage your printer and voids the manufacturer's warranty for the printer.

For optimum print quality, Evolis recommends that the printer is fully cleaned every time the ribbon is changed. See the Servicing and Maintenance section of this manual.



ä Fitting the ribbon

Ensure that the appropriate ribbon type is selected in the print driver.

The Securion printer accepts two types of ribbon:

- Colour or monochrome ribbons intended for the printing module, identifiable from their core fitted with a toothed wheel
- Special films intended for the lamination module, identifiable from their hollow core

For optimum print and lamination quality, Evolis recommends that the printer is fully cleaned every time the ribbon is changed. This is left to the judgement of users, who will nonetheless take care to comply with the mandatory cleaning cycles in order to keep the equipment in full working condition (see the Maintenance section). Validity of the manufacturer's warranty is dependent on adherence to cleaning cycles.

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Monochrome or colour ribbon

To fit a monochrome or colour ribbon in the printing module, please proceed as follows:

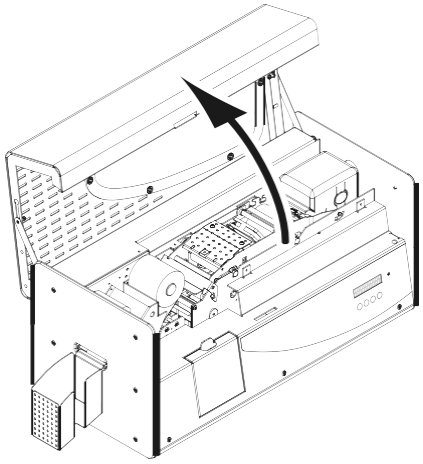
Ê Open the printer cover.

Ë Press down on the latch to unlock the print head bracket and tilt it to the right until it reaches the vertical position. Remove any ribbon that may be fitted.

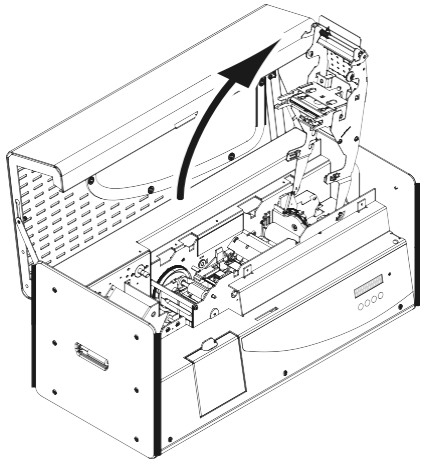
Ì Fit the new ribbon in the position shown.

Í Lower the print head bracket and lock it in position.

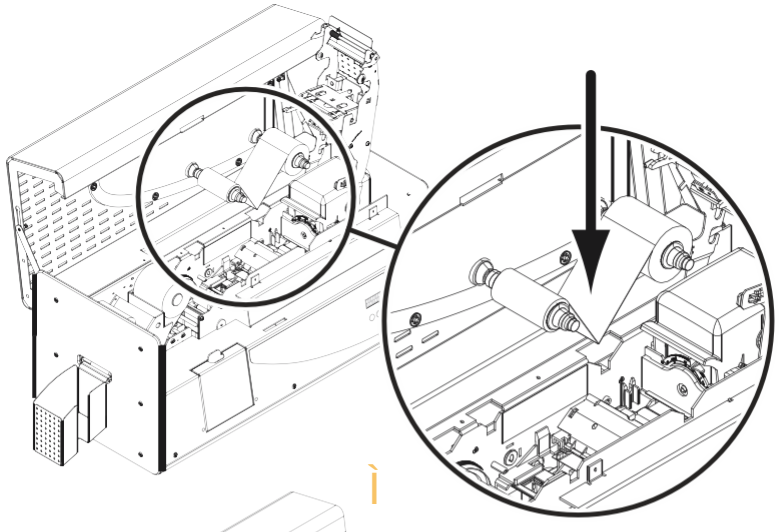
Î Close the printer cover again.



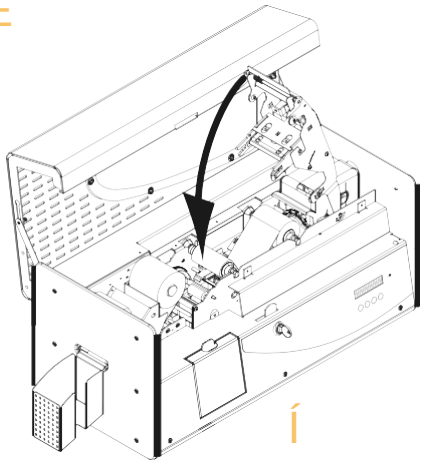
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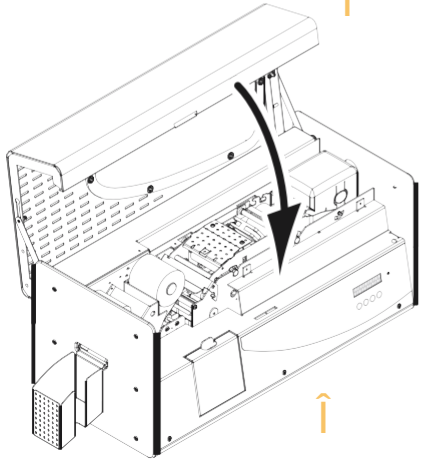
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Laminating film

The lamination unit includes parts heated to high temperatures. Be careful not to put your fingers inside the module. Follow the safety instructions.

Appropriate configuration of the print driver should be carried out before fitting laminating film.

Ê Open the printer cover.

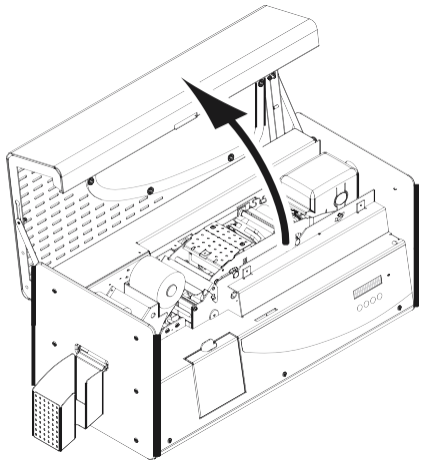
Ë Check that there is no film in the lamination module. If there is, remove the film carefully, taking care not to fold or twist it.

Ì Take the film installation guide cartridge.

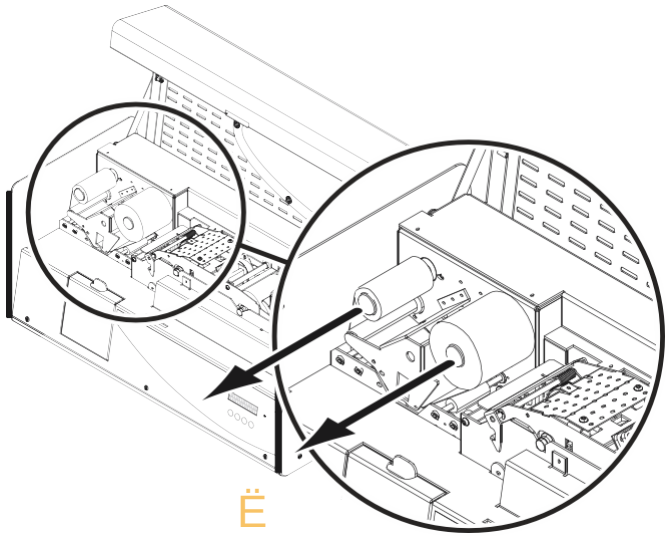
Í Place an empty reel in the right-hand position, and a new film in the left-hand position, being careful of the direction that the film winds.

Î Peel off the label on the new film, and unwind the film following the directions to guide it between the lugs, then stick the label onto the empty reel.

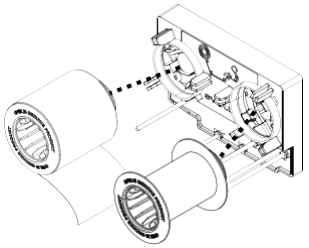
Ï Stretch the film slightly by turning the reels.



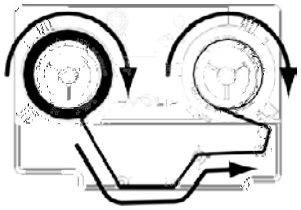
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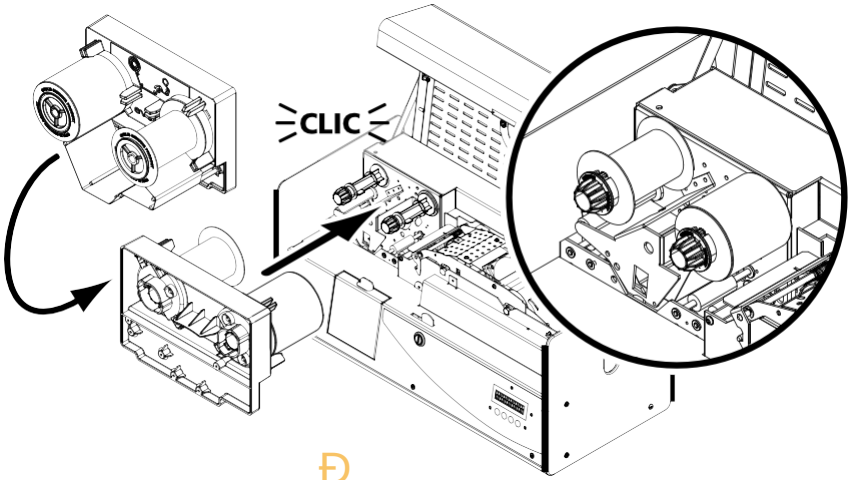


Đ Insert the cartridge into the lamination module, pushing it until it locks into place with a click once it comes to stop in the holder.

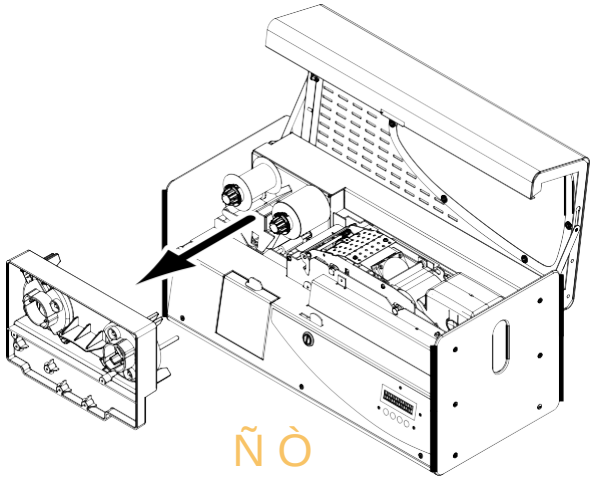
Ñ Release the cartridge from the lamination module.

Ò Then check that the film runs smoothly between the sensor forks, without creasing.

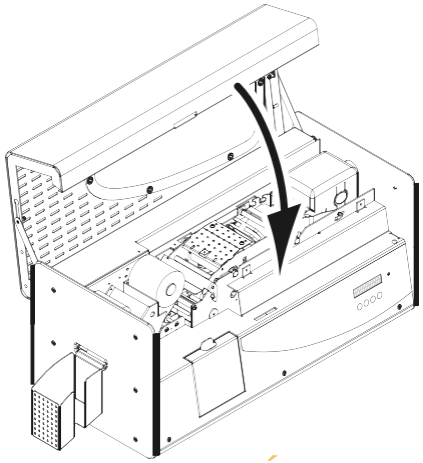
Ó Close the printer cover again.



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1-3c CARDS

For optimum quality, the cards used must be ISO 7810 certified.
Use only the card types recommended by Evolis.
Do not touch the printable surface of the cards in order to preserve print quality.
Do not use cards that have been damaged, folded, embossed or dropped on the fioor.
Keep your cards protected from dust.



The SECURION printer accepts PVC and PET cards between 0.25 mm and 1 mm thick. For optimum quality, the cards used must meet the ISO 7810 standard. There are several types:

- Blank cards
- Magnetic strip cards
- Contact smartcards
- Contactless smartcards
- Magnetic strip smartcards

Be extremely careful to ensure that magnetic strip cards and contact smartcards are properly positioned in the input feeder. The encoding option will fail if cards are not inserted in the right direction.

The usual procedure is for cards to be laminated after printing. This process requires cards to be heated to high temperatures, and they may become slightly warped under the effect of the heat and the stress exerted by the film as it cools.

Evolis recommends the use of cards specially designed for lamination purposes.

For more information, please contact your Evolis dealer who will advise on your choices.

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ä Loading the cards



Ê Open the printer cover.

Ë Remove the card feeder as shown.

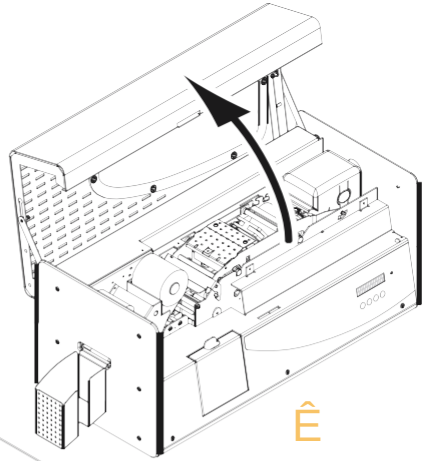
Ì Insert the cards in the feeder as indicated, with the side to be printed facing down.

Í Adjust the gauge setting to match the thickness of your cards (see section 3.3.3 for more information).

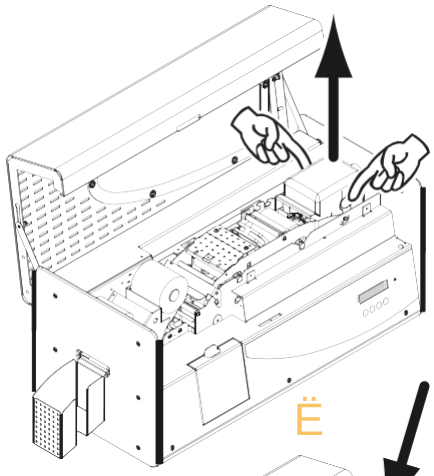
Î Replace the card feeder as shown.

Ï Close the printer cover again.

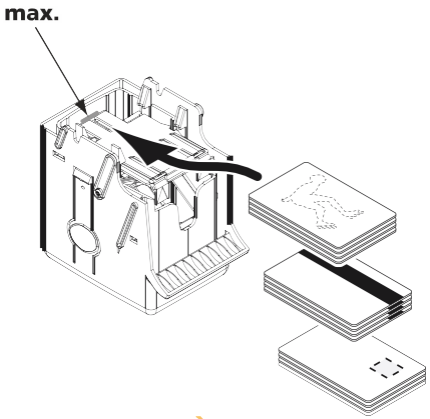




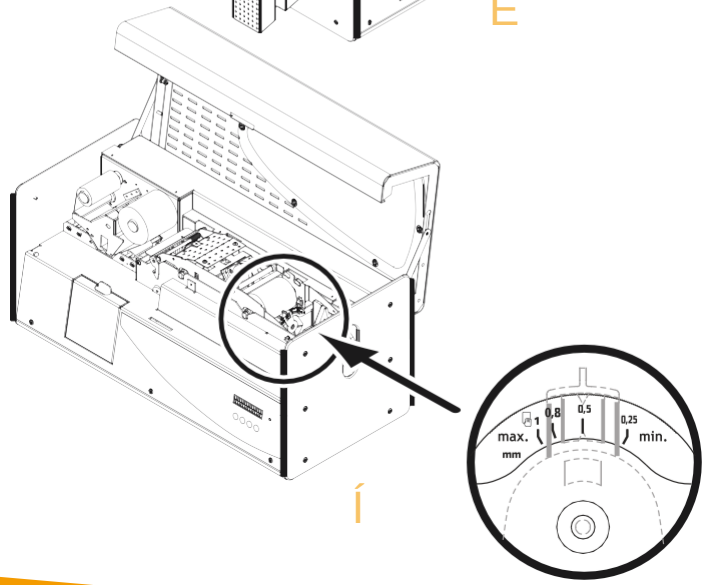
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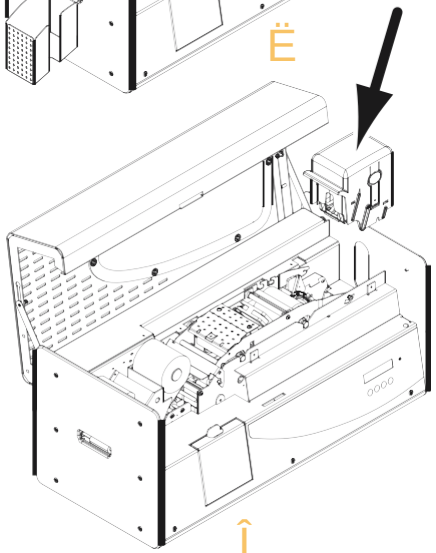
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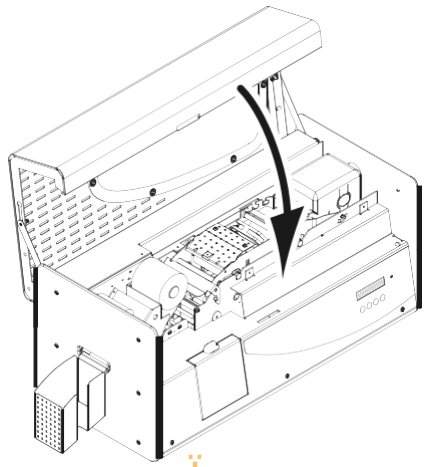
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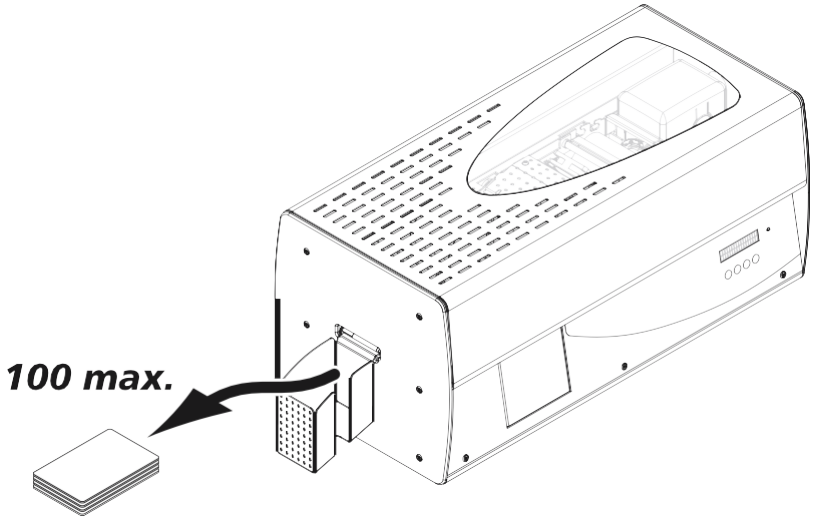


ä Removing printed cards

Once the print and/or encoding cycle is complete, cards are delivered into the output hopper found on the left of the device. This has a capacity of 100 x 0.76 mm (30 mil) cards.

Users can select from three methods to collect cards from the output hopper:

- Front side of card visible – First card at bottom of stack
- Rear side of card visible – First card at top of stack
- Cards ejected in their position on exit from the lamination area



The method is set via the Properties menu in the print driver.
Please see the Print driver Properties section for more information.

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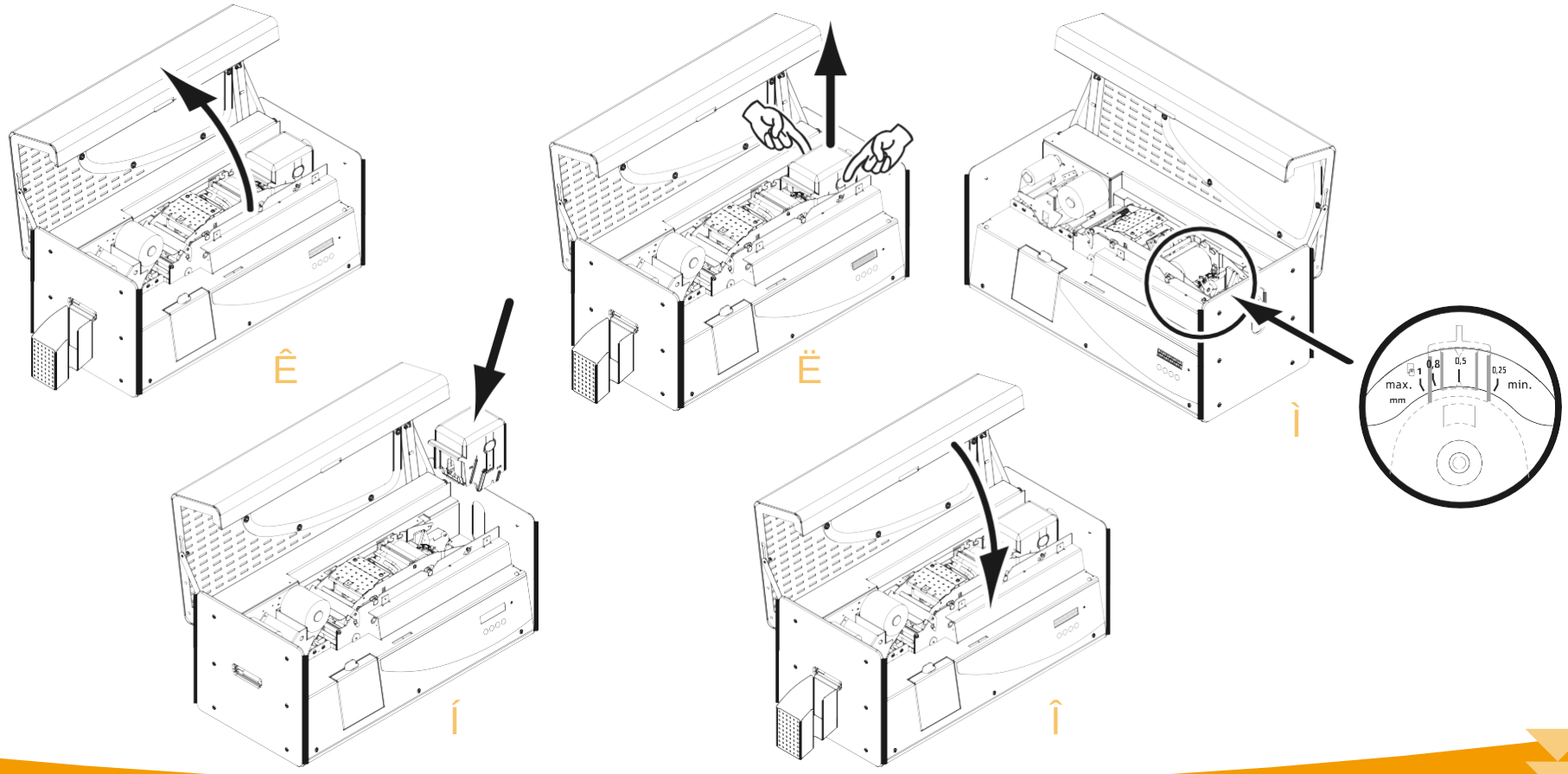


ä Adjusting card thickness

The printer is equipped with a manual card thickness adjustment mechanism which can be reached either through the card input feeder or through the inside of the printing module when the print head bracket is open. The printer accepts cards between 0.25 mm and 1 mm thick. The factory setting for card thickness is 0.76 mm.

Adjusting card thickness through the feeder cage:

Ê Open the printer cover.
Ë Remove the card feeder from the printer as shown.
Ì Adjust the thickness of the cards used by moving the lever from right to left to the desired card thickness.
Í Put the feeder back into the printer by pressing on the upper section of the feeder until it clicks.
Î Close the printer cover again.



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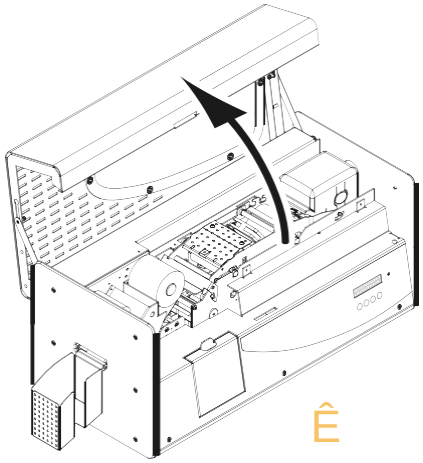


Adjusting card thickness from inside of the printer:

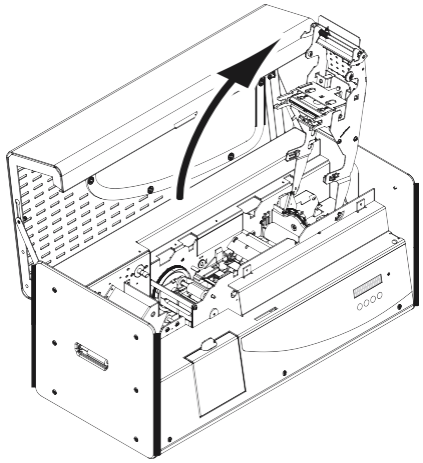
Ê Open the printing module cover.

Ë Press down on the latch to unlock the print head bracket and tilt it to the right until it reaches the vertical position.

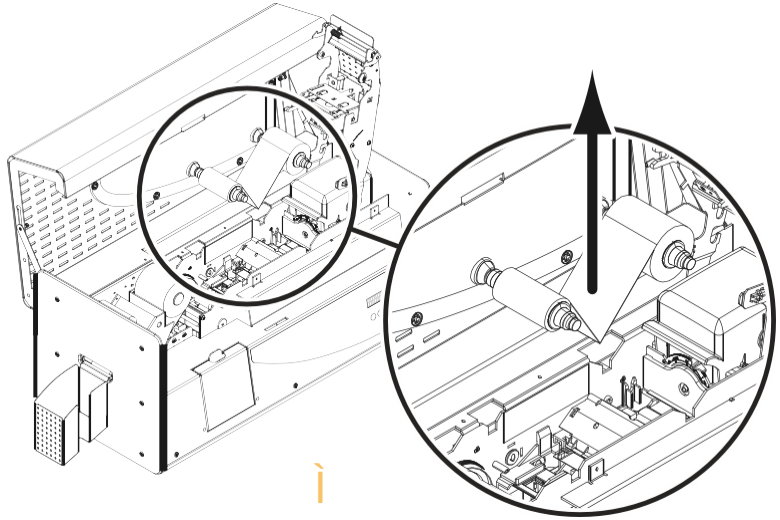
Ì If necessary, remove any ribbon inside the printer.



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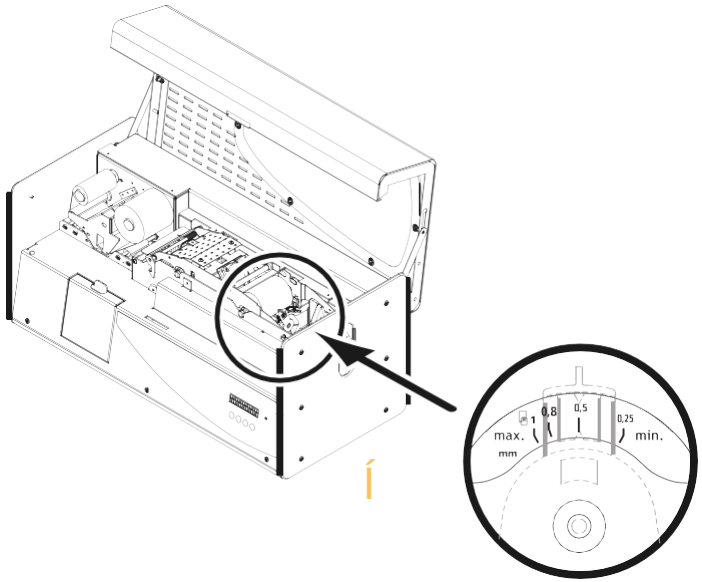
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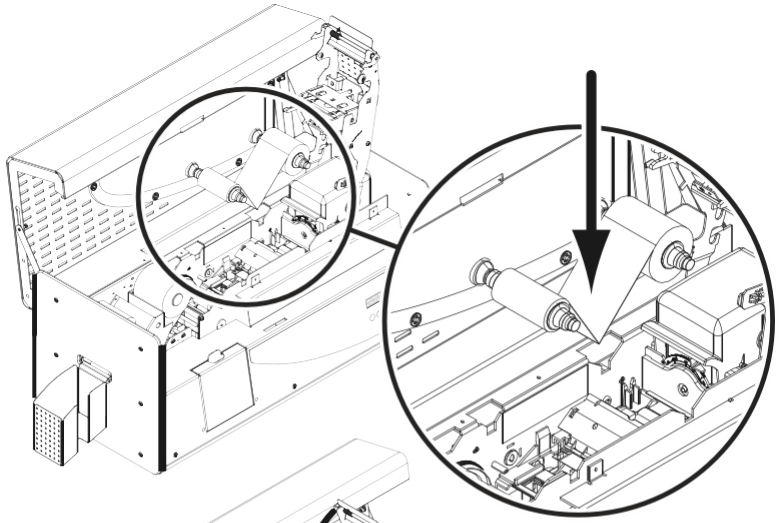
Í Then adjust the thickness of the cards used by moving the lever from right to left to the desired card thickness.

Î Replace the ribbon in the printer, then close the print head bracket.

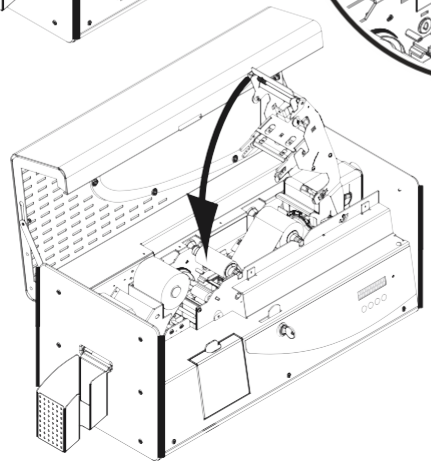
Ï Close the printer cover again.

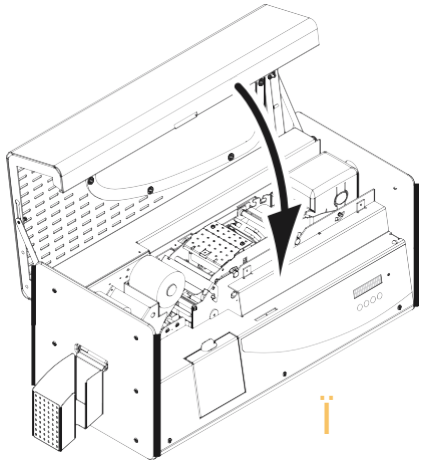


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ä Reject hopper management

Your SECURION printer is equipped with a reject hopper, the purpose of which is to separate correctly customised cards from incorrect cards.
Incorrect cards are automatically stored in a reject hopper with a capacity of 15 cards.

The reject hopper needs to be emptied regularly to avoid halting jobs in progress. This operation is carried out in two stages:

- Removal of the cards
- Resetting the rejected card counter to zero (so that the printer knows how full the reject hopper is)

To empty the hopper and reset the counter, please proceed as follows:

1. Open the printer cover.
2. Open the reject hopper by tilting the fiap forwards, and remove the cards found.
3. Close the reject hopper fiap.
4. Close the printer cover.
5. Press any key on the control panel to enter the menu.
6. Select the **CONFIG** option and confirm with **OK**, then scroll down to select **REJECT HOPPER** and confirm with **OK**.
7. Select the **Reset** option and confirm with **OK**.
8. Exit the menu.

NOTE

Evolis advises you to empty the reject hopper regularly, such as whenever the ribbon is changed or during routine maintenance.

2

Printing

The information about the procedures described in this section refers to a Windows XP environment.



2-1 Installing the print driver

Configuration of the printer and its driver is a very important step and requires very special care. In fact, inappropriate settings are a factor having a negative impact on the quality of card customisation. It is therefore essential to proceed in stages, changing settings only when you are completely sure. Evolis offers the option to revert to the factory settings at any time if the adjustments made do not give the expected results.

Your printer is delivered with a CD containing the print drivers for Windows and Macintosh platforms.

To install a print driver, insert the CD into your computer and select the print driver menu. A program will guide you through the entire installation process.

Do not connect your USB cable to your computer until prompted to do so by the installation program.
For the connection procedure, see the section on Connecting the Printer.

Follow the installation procedure scrupulously. Some versions of Windows and Macintosh require the user to have administrator rights to install the driver.

2



2-2 Managing the print settings

Before using your printer, it is essential to check and/or change the default print driver settings:

- Ribbon type
- Card type
- Card finish or treatment
- ...

You will find more detailed information about the cards recommended by Evolis in the 'Evolis Genuine Product' list of consumables.

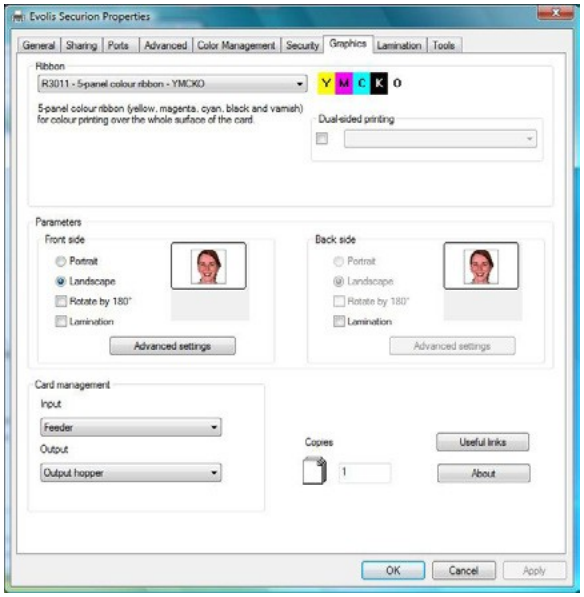
Pay attention to the settings defined under the print driver Properties and do not hesitate to contact your Evolis dealer for any advice and assistance needed before making any changes.

These print settings are accessible:

- From the **Start** button found bottom-left on the Windows task bar, select **Printers and faxes**.
- Select your printer and double click.
- From the **Printer** menu, select **Properties**.
- The first properties configuration screen for the equipment then appears.
- The main tabs used to define the settings are **“Graphics”** and **“Tools”**.

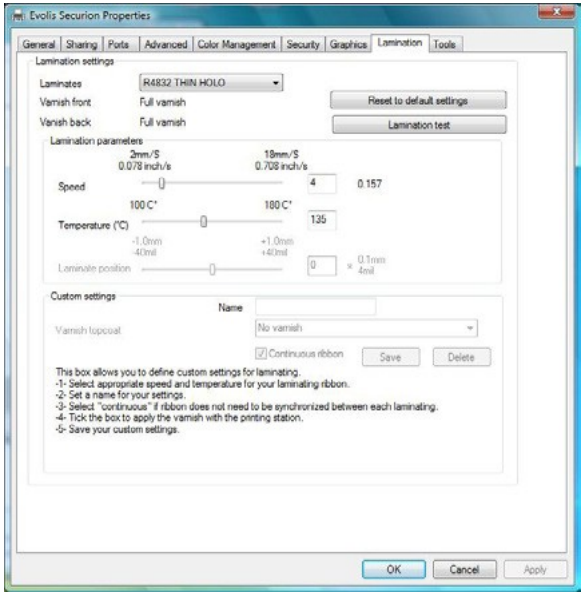
2





ä “Graphics” tab

- The ribbon type
- Front/back printing
- Card collection method
- Card orientation, portrait or landscape
- Number of copies

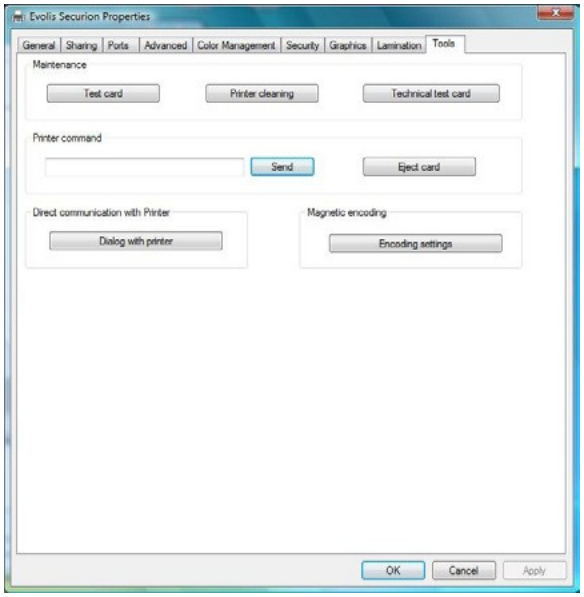


ä “Lamination” tab

- Selection of film type
- Changing lamination settings
- Customised configuration

2





ä “Tools” tab

- Setting and testing magnetic encoding options
- Test card printing
- Cleaning the printer
- Dialogue interface with the printer

We recommend that you print a test card when first using the printer, and keep it. This card records information such as the model and serial number which you could be asked to provide if you call technical support.



2-3 Printing a card

A large number of Windows applications allow documents to be printed (for example the tools in Microsoft's Office suite, i.e. MS-Word, MS-Access, Ms-Excel, MS-PowerPoint).

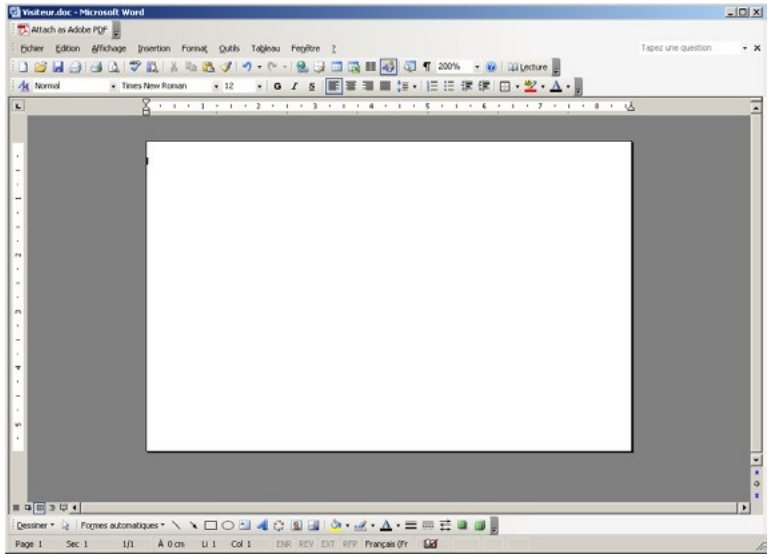
To gain familiarity with the layout of a card and configuring its formatting and printing, we suggest the following example.

ä In Microsoft® Word

After having set the Evolis printer as the default:

- Start the MS-Word application
- Click on the **File** in the menu bar, then on **Page Setup**
- The **Paper** tab has a **Paper Size** option, select **CR80 Card**
- In the **Margins** tab, set all margins to '0', then in the **Orientation** section, select Landscape.
- Close the window by clicking OK.

Your Word window should now look like this:



You are ready to customise your card by adding the various items that go to make up a card:

- Logo and Illustration
- Identification photo
- Fixed and variable text
- Bar code, etc.

Once ready, click on **File** and then on **Print**.

2

2-4 Connecting to a network (Ethernet)

All Evolis printers have the benefit of a TCP/IP network connection mechanism. This feature is available as standard or as an option, depending on the model in the range.

Out of the box, the printer comes configured in DHCP mode (Dynamic Host Configuration Protocol), which means that its IP address is supplied by the network. In addition to these basic settings, the network administrator has the option of configuring the printer differently in order to comply with the constraints imposed by the corporate LAN:

- Printer connected in a subnet, in DHCP
- Printer connected within a subnet with fixed IP address, with WINS resolution
- Printer connected within a subnet with fixed IP address, without WINS resolution

The printer may be identified on the network in two ways:

- By its hostname (NETBIOS)
- By its IP address.

The user-definable settings are:

- The printer's IP address
- Subnet mask
- Gateway
- WINS server.

Changing the printer's basic settings, without prior knowledge of the layout of the LAN in question or without genuine technical knowledge may result in a malfunction of the printer, and may even extend to a more widespread failure of all or part of the LAN. Contact your System and Network Administrator before connecting to or changing the settings for your local area network.

For further details, refer to the 'Configuration of Evolis printers on a TCP/IP (Ethernet) LAN' manual.

3 Maintenance

3-1 General warranty information

Your Evolis printer has been designed to give you long service and needs only minimal regular maintenance. Please comply with the instructions given below to ensure that it runs satisfactorily.

Keep your warranty cover!



The manufacturer's warranty is subject to strict adherence to the routine servicing and maintenance instructions, and in particular the printer cleaning cycles.

Any failure to follow the maintenance and servicing procedures described in this section voids the print head warranty.

Evolis declines any liability where there has been a failure to carry out required maintenance on the printer.

The print head is a wearing part and an extremely sensitive printer component. Its useful life can be seriously curtailed by the presence of dust, liquids or solids in the printer's immediate environment, on the print head or on the cards. Users must take all necessary precautions to insert only clean cards, free of dust deposits or foreign bodies, into the machine.

The frequency and quality of cleaning are decisive factors enabling users to extend the print head's useful life and to ensure excellent print quality. Particular care must therefore be taken with cleaning. Users must comply with the servicing and maintenance instructions as fully described in this section.

In addition, the use of Evolis brand ribbons (Evolis Genuine Ribbons) also ensures that your equipment operates properly. Use of ribbons not approved by Evolis may as a consequence affect the quality and reliability of print jobs, produce low quality printed output and even affect the printer's operation. The manufacturer's warranty does not cover physical damage or quality problems caused by using non-Evolis approved ribbons.

Evolis provides replacement parts and consumables that you can refer to within this user guide or by visiting the website at **www.evolis.com**.



3-2 Routine printer cleaning

The print head warranty is directly linked to routine cleaning of your printer.
If you do not carry out this cleaning at the required times, the print head warranty will cease to be valid.

Recommended cleaning cycle: whenever the ribbon is changed
Mandatory cleaning cycle: when the cleaning warning is triggered
Servicing accessory: cleaning card

Your printer is fitted with a cleaning warning system which is triggered after a certain number of cards have been inserted, depending on the model of printer that you have (see table below).
You should proceed with the routine cleaning of your printer as soon as the warning is triggered.
If you continue to run the printer despite the warning and if the warning light starts to fiash, the print head warranty will be automatically voided owing to a failure to comply with your contractual maintenance obligations.

Printer	Cleaning required after: *(warning light steady)*	Number of cards remaining before warranty voided *(warning light steady)*	Warranty invalid after: *(warning light fiashing)*
Tattoo2	400 cards	100 cards	500 cards
Tattoo RW	400 cards	100 cards	500 cards
Pebble4	1000 cards	200 cards	1200 cards
Dualys3	1000 cards	200 cards	1200 cards
Securion	800 cards	200 cards	1000 cards
Quantum	900 cards	700 cards	1600 cards

So for example for a Tattoo2 printer, if you insert 50 cards after the cleaning warning is triggered, you have only 50 more cards before cleaning the printer and keeping your warranty valid.

3



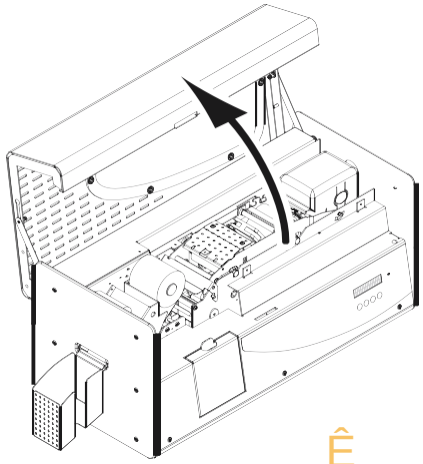
Follow the procedure below:

When cleaning inside the printer is required (after every 800 cards), the message NEED CLEANING appears on the display and the LED shows a steady red light.
This message is a warning indicating that the operator needs to run through the cleaning cycle.
There are two stages to the cleaning cycle, firstly cleaning the printing module (mandatory) and secondly cleaning the lamination module (optional).

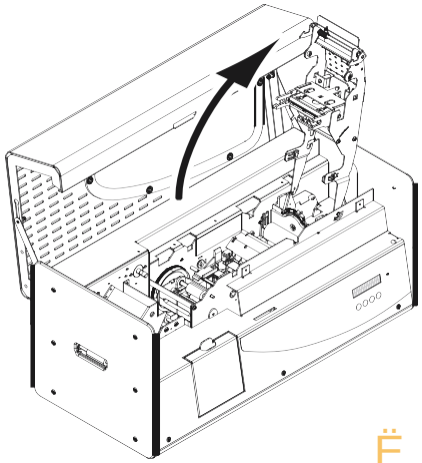
Ê With the printer on, open the cover.

Ë Inside the printing module, press down on the latch to unlock the print head bracket and tilt it to the right until it reaches the vertical position.

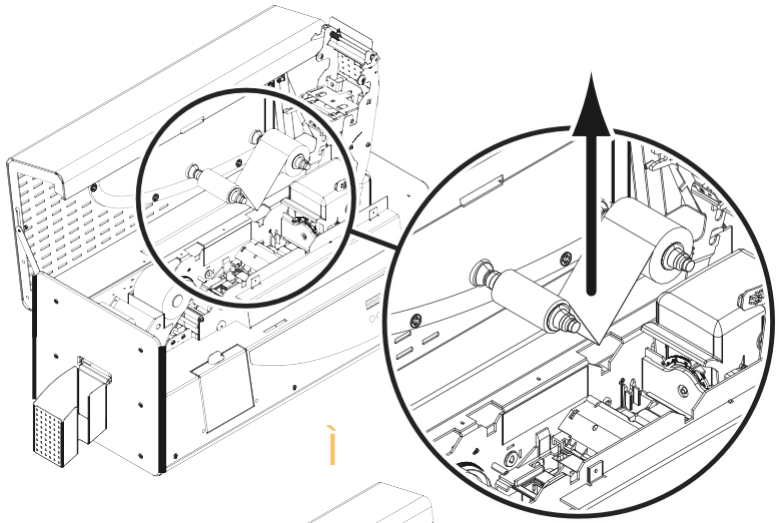
Ì Remove the ribbon and then close and lock the print head bracket.



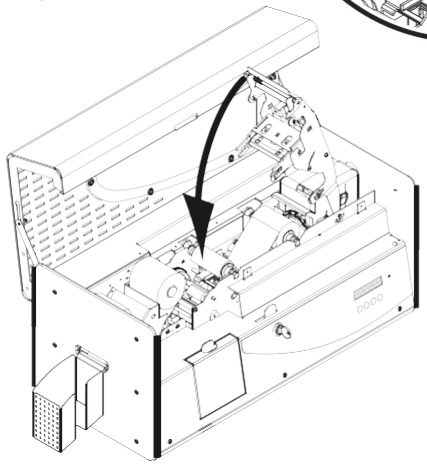
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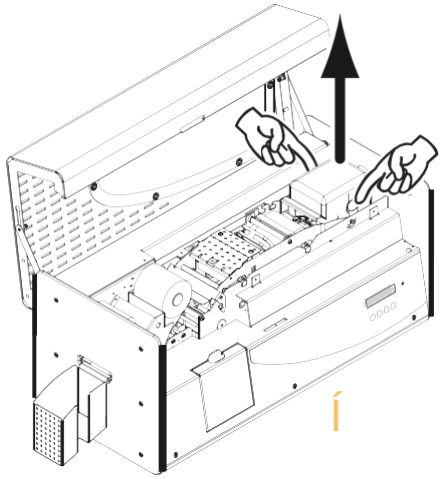
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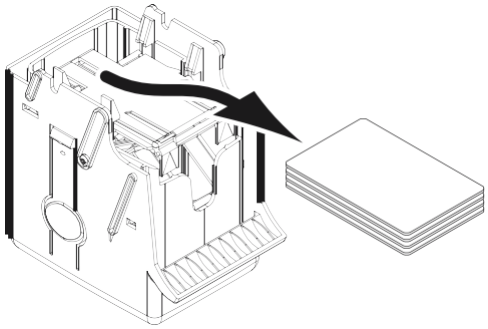
3

Í Remove the card feeder from the printer.
Î Remove any cards found in the feeder.
Ï Insert the alcohol-impregnated cleaning card into the feeder.
Đ Using the lever, set the card thickness to the MAX position.
Ñ Put the input feeder back into the printer by pressing on the upper section until it clicks.
Ò Enter the menu on the display unit by pressing any key.

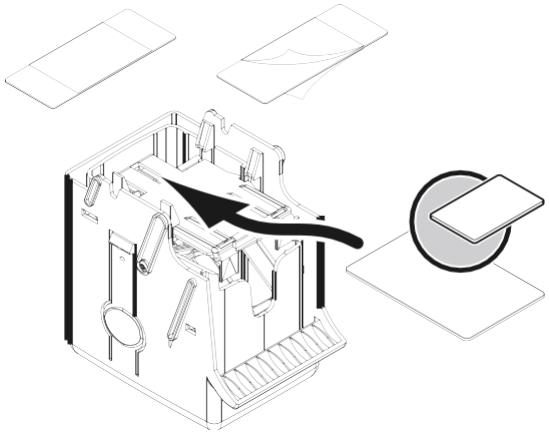




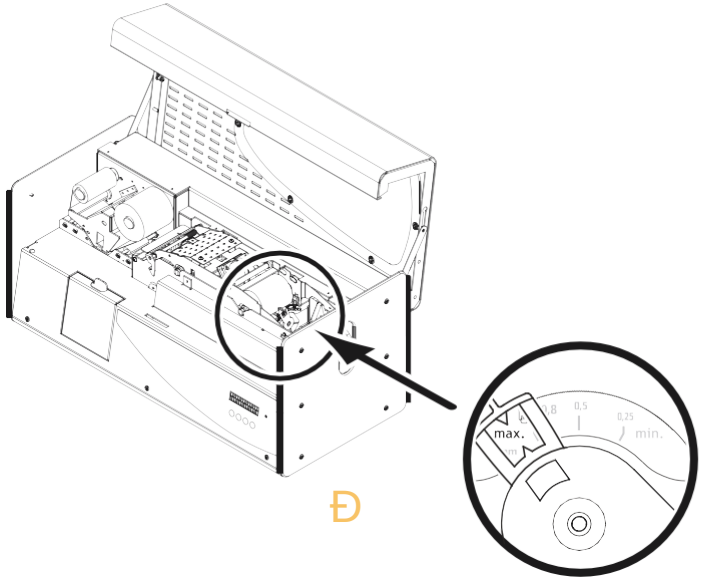
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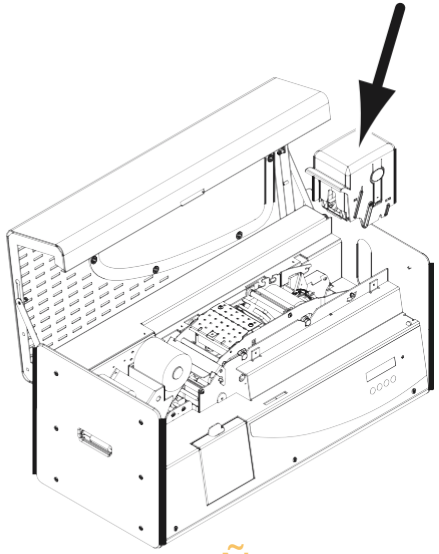
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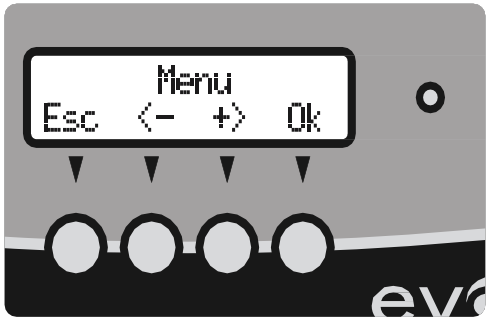
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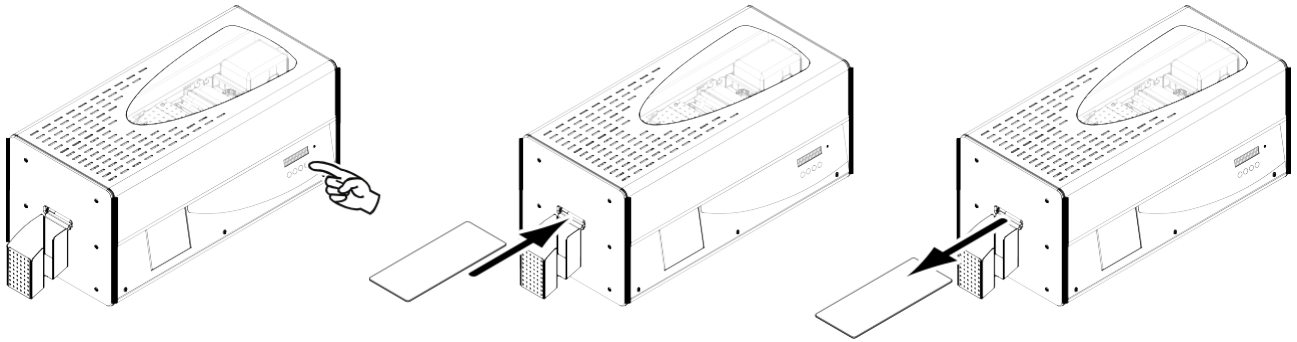
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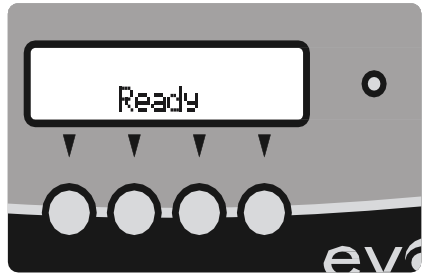
3



Ó Select the **CLEANING** menu, confirm with **OK**, then select **PRINTER** and confirm with **OK**.

11. The cleaning cycle runs, the display says **Cleaning ...**
12. Repeatedly running the cleaning card through the printer cleans the card feed rollers, the cleaning rollers, the print head and the magnetic encoder head if your printer has been fitted with one.
13. At the end of the printing module cleaning cycle, the used card is ejected into the reject hopper.
14. The message **CLEANING LAMIN** appears on the display, prompting the user to either run the lamination module cleaning cycle or to cancel.
15. If you decide to **CANCEL**, the display menu reverts to '**Ready**'.
16. If you decide to run the lamination module cleaning cycle (by confirming with **OK**), take a special adhesive cleaning card and remove the two protective films on the front and back of the card.
17. Check that there is no film in the lamination module. If there is, remove the film carefully, taking care not to fold or twist it.
18. Confirm **OK** on the display and slip the adhesive cleaning card in the opening above the output hopper on the left of the printer.
19. The card is pulled inside the printer. Repeatedly running the card through the printer cleans the lamination unit thoroughly, and removes film and dust particles found on the card feed rollers.
20. Once the cleaning cycle is over, the used card is ejected from the printer. Dispose of it in the wastepaper basket.
21. Put the film back in the lamination module. The display unit menu shows '**Ready**'.





NOTE

Wait for 2 minutes after cleaning before using your printer.



3-3 Servicing the cleaning roller(s)

In addition to routine printer cleaning, we suggest that you clean the cleaning roller(s) using the special wipes available from Evolis.
The cleaning roller(s) remove(s) any dust or particles from the cards before printing.

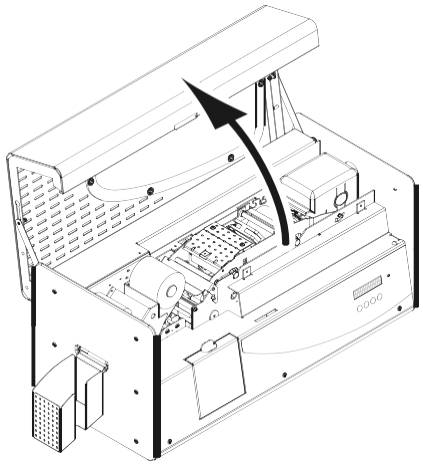
Recommended cleaning cycle: whenever the ribbon is changed
Servicing accessory: cleaning wipe

Follow the procedure below:

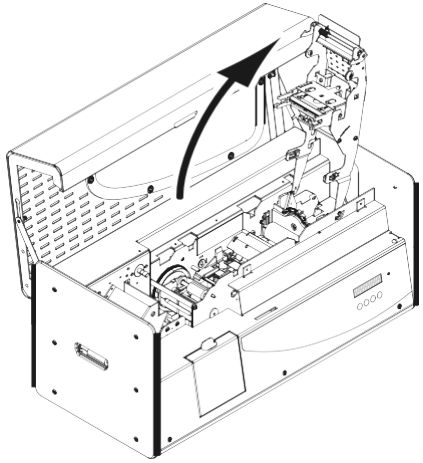
Ê Open the printer cover.

Ë Inside the printing module, press down on the latch to unlock the print head bracket and tilt it to the right until it reaches the vertical position.

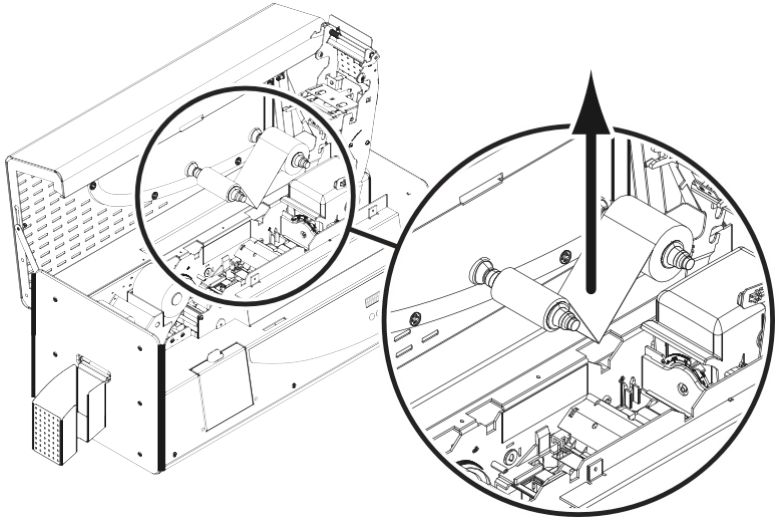
Ì Remove any ribbon fitted.



Ê



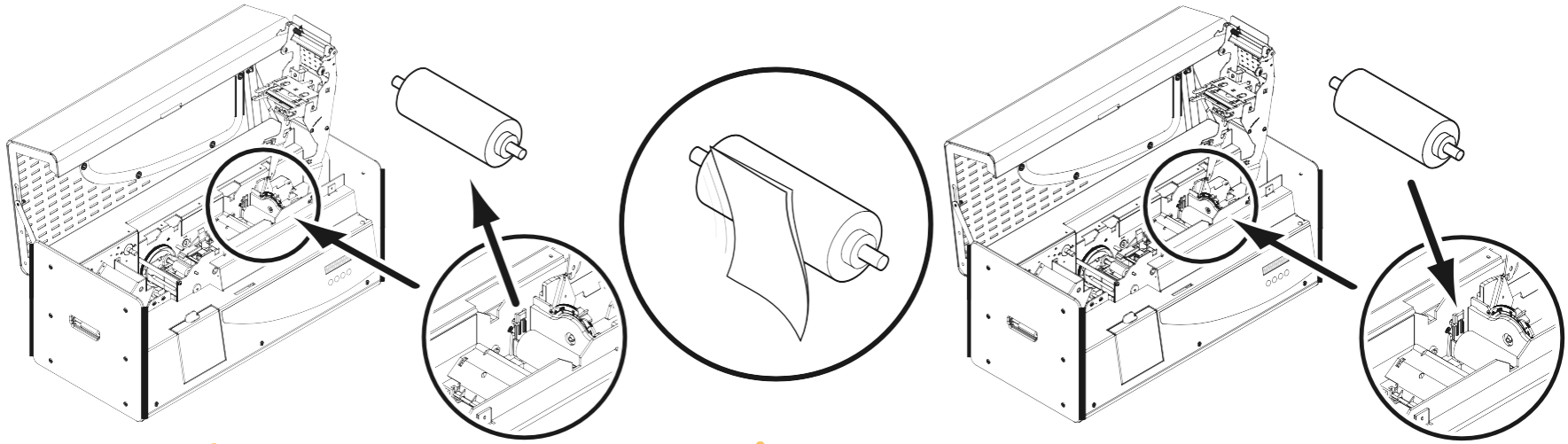
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Í Remove the cleaning roller.
Î Rub the wipe gently over the surface of the roller.
Ï When it has dried, replace the cleaning roller in the printer.
Ð Replace the ribbon, then close the print head bracket and printer cover.



Í Î Ï



NOTE

Wait for 2 minutes after cleaning before using your printer.

3

3-4 Servicing the print head

Recommended cleaning cycle: whenever the ribbon is changed
Servicing accessory: Special cotton bud impregnated with isopropyl alcohol.



The print head is cleaned in the course of the printer's routine servicing procedure (see previously).
However, to maintain the original print quality and to absorb surplus ink on the print head, we recommend that you regularly clean the print head (whenever the ribbon is changed) using the cotton buds supplied by Evolis.
You must also protect the print head and its components from any discharge of static electricity.

Unplug the printer from its power supply before cleaning the print head.
Follow the cleaning cycles scrupulously.
Avoid any contact between the print head and any metal or sharp objects.
Avoid touching the print head directly with your fingers, as this could affect print quality or permanently damage the print head.

3



Follow the procedure below:

Ê Turn the printer off using the ON/OFF switch on the rear panel.

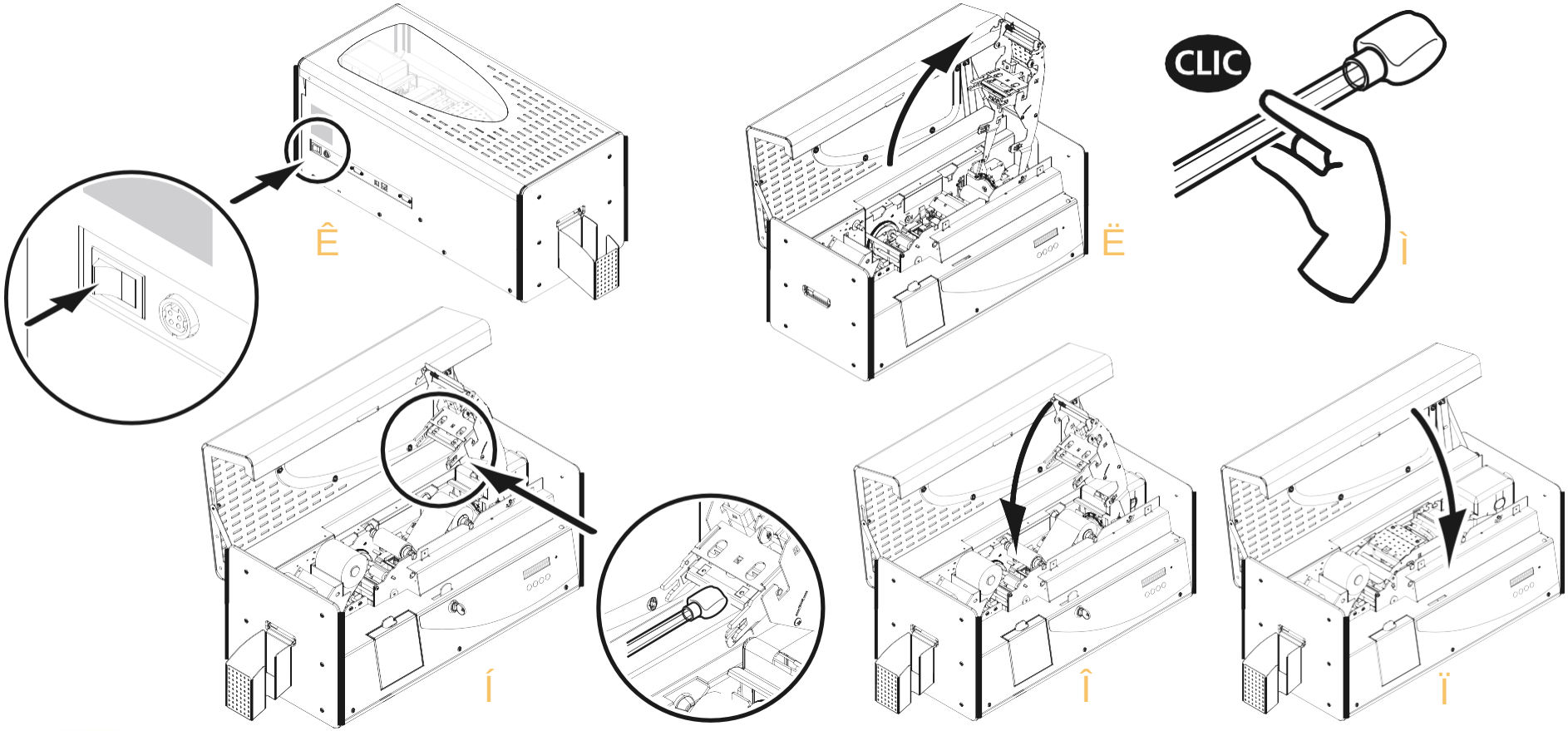
Ë Open the printer cover then unlock the print head bracket and tilt it to the vertical position.

Ì Take an Evolis cotton bud and press the middle of the tube until the end of the cotton bud is impregnated with alcohol.

Í Locate the print head, and gently rub the cotton bud from left to right along it for a few seconds.

Î Lower the print head bracket and lock it in position.

Ï Close the cover and switch the printer back on. Your printer is once again ready to use.



NOTE

Wait for 2 minutes after cleaning before using your printer.

4

Help

This section gives a number of suggestions allowing problems that may arise when using your printer to be pinpointed. If you do not manage to solve your problem, this section also explains how to contact Evolis technical support.



4-1 Introduction to the printer menu

The Quantum printer has an LCD unit combined with an LED (light-emitting diode) enabling the operator to see the operating condition of the equipment and make adjustments to the most common settings.

The control panel comprises 3 units:

- One LCD display unit with 2 lines, each of 16 characters, back-lit for better readability
- Four navigation buttons used to move around the menu, and confirm or cancel selections
- One dual-colour LED: green when running normally, red in the event of a warning requiring the operator's attention

When idle, after a short phase when the printer is turned on, the control panel shows the following status:

Line 1 = printing module status = READY
Line 2 = encoding module status = READY A or READY B (the letter A or B corresponding to the encoding module position)

When running, the information shown varies:

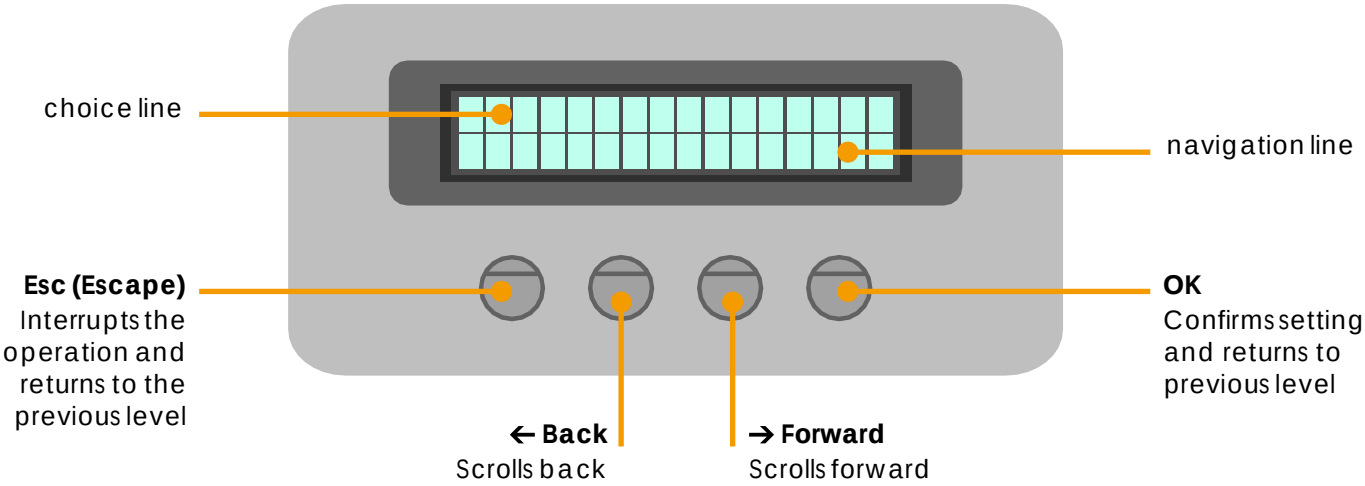
- Upper line – Printing module status
- Lower line - Encoding module status
- Steady green LED - Pending
- Flashing green LED – Data transfer with the PC or printing in progress
- Steady or fiashing red LED, displaying a warning or error message

4



In the event of operator intervention activating the menu, the LCD unit is converted into a dialogue and configuration support interface. The lower line of the display unit is used to show the function of the control panel buttons at any time within a context-based menu.

Generally speaking, unless otherwise indicated, navigation works as follows:



Language selection

The display unit is set to English by default. However, five other languages are available - French, Spanish, German, Italian and Portuguese. To select the display language:

- Press any key on the control panel to enter the menu.
- Scroll down the menu until **CONFIG**, then confirm with **OK**.
- Select **SERVICES** then confirm with **OK**.
- Then scroll to **LCD** and select **Languages**.
- Scroll to the language of your choice.

4

4-2 Warnings and diagnosis

Although the Evolis printer was designed to work independently, keeping user involvement to a minimum, it may nonetheless prove useful to gain some familiarity with the main warnings.

Status messages

These messages indicate the printer's status during print jobs. They are displayed to keep the operator informed and require no special action.



LCD Display	Description	Action required
Initialisation	Start-up in progress	*No*
Ready	The printer is ready to receive data.	*No*
Cooling	The printing module is cooling.	*No*
Printing	Printing in progress.	*No*
Laminating	Laminating in progress.	*No*
Warming up	The lamination module is warming up.	*No*
Waiting	Waiting for a job to finish.	*No*
Processing	Print job in progress.	*No*
Cleaning	Cleaning procedure in progress.	*No*
Loading	Loading Firmware in progress.	*No* To enable this operation to run successfully, do not unplug the printer or PC connection.
Restarting	The printer is restarting following the load of the firmware.	*No*

4



Warnings and error messages

LCD Display	Description	Action required	
Input feeder empty	The card input feeder is empty.	*Yes*	Put cards in the card feeder. See section 2 - Installation
Ribbon error	No ribbon in the printing module. End of ribbon. The ribbon is not correctly fitted. The ribbon is torn.	*Yes*	Check the condition of the ribbon in the printing module. If you have a print job in progress, this restarts with a new card.
Lamin. film error	No ribbon in the lamination module. End of ribbon. The ribbon is not correctly fitted. The ribbon is torn.	***Yes***	Check the condition of the ribbon in the lamination module. If you have a print job in progress, this restarts with a new card.
Cleaning required	The printer must be cleaned.	***Yes***	See section 3 - Maintenance
Reject hopper full	The hopper holding rejected cards is full.	***Yes***	Empty the reject hopper. See section 2 - Installation
Print head bracket open	The printing module print head bracket is not correctly locked in position.	***Yes***	Open the printer cover and press the print head bracket until it clicks. The printer restarts.
Print head error	A problem related to the print head has occurred. Current print jobs are interrupted.	***Yes***	Contact an Evolis dealer for assistance.
Mechanical error	A card feed problem has arisen in the printing module or turnover area.	*Yes*	Free the card. See this section.
Lamin. Mech. error	The lamination module has detected a card feed problem in the printing module or turnover area.	*Yes*	Free the card. See this section.
Lamin. Temp. error	The lamination module has detected an over-heating problem.	***Yes***	Turn off the printer and contact an Evolis dealer for assistance.
Laminator error	The printer has detected a card feed error in the lamination module.	***Yes***	Open the printer cover. Press any key on the control panel to eject the card into the output hopper.
Lamin. film error.	The printer has detected a problem related to the film in the lamination module.	***Yes***	Open the printer cover and check the film position, replacing it if need be.

4

4-3 Diagnosis help

In this section, you will find all the information you need to carry out a few simple checks that you may be asked to run by your Evolis dealer to help you as effectively as possible.

4-3a PRINTING A TEST CARD

We recommend that you print a test card to ensure that your printer is working properly. This card shows various technical details for future reference. You may be asked for these by your dealer.

ä Printing a test card



Ê Wait for any current print jobs to complete.
Ë Check that there is a ribbon and a card in the printer.
Ì Enter the menu on the display by pressing any key on the control panel.
Í Scroll through the menu options with the key until the **SERVICE** option is displayed and confirm with **OK**.
Î Scroll through the menu with the key until the **TECH CARDS** menu is displayed and confirm with **OK**.
Ï The Auto-test option is displayed, confirm with **OK** to trigger the test card print.
Ð The printed card is ejected into the output hopper.

ä Information about the test card

A test card:

- Confirms the print quality in colour or black and white
- Confirms proper ribbon synchronisation
- Displays the printer model
- Displays the printer's serial number

4-3b IDENTIFYING INSTALLED SOFTWARE VERSIONS

As previously shown, you can easily identify the version of the software embedded in your printer (firmware number) by means of the test card.

You can also identify the version of the print driver installed as follows:

- From the **Start** button found bottom-left on the Windows task bar, select **Printers and faxes**.
- Select your printer and double click.
- From the **Printer** menu, select **Properties**.
- Go to the **Graphics** tab and then click **About**.



4-4 Troubleshooting

Do not attempt to use tools or other items to repair your printer in the event of problems, in case major damage is caused.



4-4a PRINTING PROBLEMS

ä Nothing prints

Ê Check the print driver

Check that there is a print driver for your printer in the Windows configuration.
Check that the printer is selected as the default printer.

Ë Check the printer's power supply

Check that the power cable is correctly connected to the printer and to a working electrical socket.
The printer is on and the display unit says READY.
Make sure you are using the power supply unit supplied with the printer.

Ì Check the USB cable

Check that the USB cable is connecting the printer to your computer.

Í Check the ribbon

Check that the ribbon is fitted correctly and that the print head bracket is locked in place.

Î Check the cards

Check that there are cards in the card feeder.
Check that no cards are jammed in the printer.

Ï Print a test card

See elsewhere in this section for the procedure to be followed.

ä Blank card ejected

Ê Check the ribbon

Check that the ribbon is not finished or damaged. Replace it or re-install it if necessary.

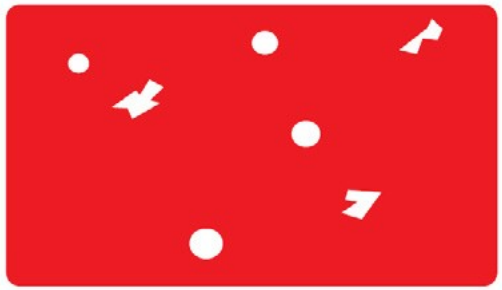
Ë The print head may be damaged

Print a test card.
If the test card does not print, contact an Evolis dealer for technical support or visit the website at www.evolis.com.



ä Poor print quality

Small blemishes on the card



- **The card surface may be dirty.**
  Check that your cards are perfectly clean.
  Use new cards.

- **Cleaning rollers or print head clogged.**
  Clean the cleaning rollers and print head.

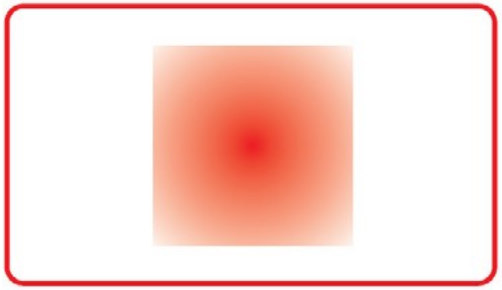
Horizontal white lines



- **The ribbon is not correctly fitted.**
  Check that the ribbon is correctly positioned in the printer.
  Check that there are no wrinkles on the ribbon surface.

- **Print head dirty or damaged.**
  Clean or replace the print head.

Blurred image



- **The ribbon is not correctly fitted.**
  Check that the ribbon is correctly positioned in the printer.

- **Poor ribbon synchronisation.**
  Open and close the printer cover to synchronise the ribbon.

- **Dirty printer or cleaning rollers.**

- **Use of incompatible cards.**
  Check that the cards used match the specifications.

We recommend that you obtain your cards from an Evolis dealer.
Use of cards obtained elsewhere is liable to adversely affect print quality and/or damage the print head.

4



ä Partial or incorrect printing

Ê Check the print settings

Check that no area of the card design to be printed is outside the print margins.
Check the document orientation (portrait or landscape) in the print driver configuration.

Ë Check the interface cable

If irregular characters are printed, check that you are in fact using the USB cable supplied with your printer.
Check the connection between the computer and the printer.
Try using another cable of the same type.

Ì Check that the printer is clean

Clean the printer, especially the cleaning rollers.
See the maintenance section.

Í Check that the cards are clean

Store your cards protected from dust.

Î Check the ribbon

Check that the ribbon is fitted correctly.
Check that the ribbon spools freely.

Ï Check the print head

Should horizontal straight lines appear on printed cards, it is likely that the print head is dirty or damaged.
See the section on maintenance and troubleshooting. If the problem persists, contact an Evolis dealer or visit the website at **www.evolis.com**.

4-4b FREEING JAMMED CARDS

Do not turn your printer off, as this cancels pending print jobs in the printer's memory.

Freeing a card in the printing unit

When a card becomes jammed in the printing unit, the message 'Mechanical error' appears on the control panel display. Print jobs are interrupted.

Do not turn the device off, as this will result in the loss of current print jobs stored in the printer's memory.

1. Open the printer cover.
2. Tilt the print head bracket into the vertical position and remove the ribbon that is fitted.
3. Gently remove the jammed card being careful not to damage the printer and its components.
4. Replace the ribbon, close the print head bracket, making sure it is locked in position.
5. Close the printer cover. The printer restarts.

Freeing a card in the lamination unit

When a card becomes jammed in the laminating unit, the message 'Laminator error' appears on the control panel display. Print jobs are interrupted. Do not turn the device off, as this will result in the loss of current print jobs stored in the printer's memory.

1. Open the printer cover.
2. Press any key on the control panel to eject the card into the output hopper.
3. Repeat this more than once if necessary.
4. If ejecting the card is this way does not work, then try to free the card manually, taking care not to touch hot surfaces on the lamination unit.

If the lamination unit is too hot, turn the printer off and wait for the module to cool down (this can take several hours). Try once more to free the card manually.
If, despite your best efforts, the card remains jammed, contact your Evolis dealer for on-site assistance from an engineer.



Never use any kind of tool (screwdriver, sharp object, etc.) to free the card. You risk causing serious damage to the rollers, especially the unit's hot roller.
Any such damage will not be eligible for cover under the warranty!

Once the card is free, make sure that the film is correctly positioned and then close the printer cover. The printer restarts.

To prevent card jams:

- Check that the card thickness gauge is correctly adjusted.
- Check that the thickness of the cards used matches the specifications set out in Appendix A "Technical specifications" in this manual.
- Check that the cards are fiat. Keep them in a horizontal position.
- Check that the cards are not stuck together. Shuffie the cards before loading them.

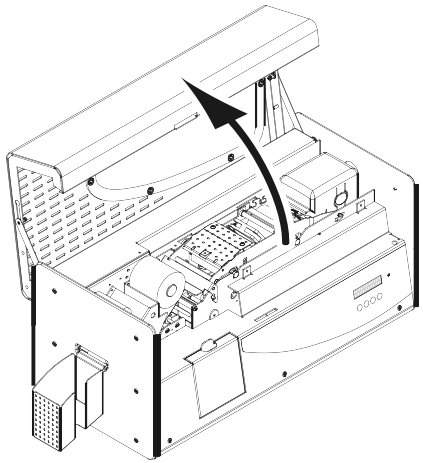


4-4c REPLACING THE CLEANING ROLLERS

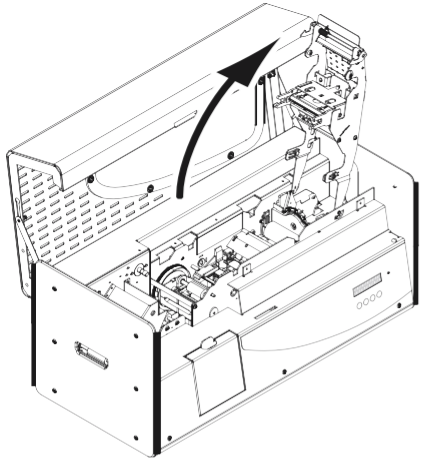
Should your cleaning roller start to work less effectively despite regular maintenance, it is advisable to replace it in order to avoid dirt accumulating on the print head, resulting in permanent damage (See section 3 – Maintenance).
The cleaning roller is available as a consumable from your Evolis dealer.

Roller replacement procedure:

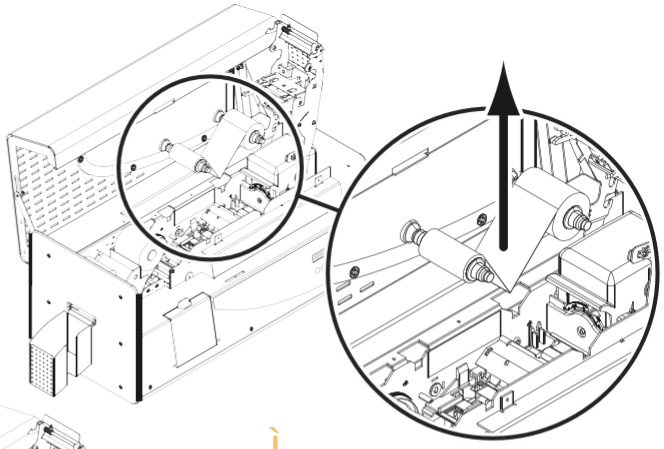
Ê Open the printer cover.
Ë Unlock the print head bracket and tilt it to the vertical position.
Ì Remove the ribbon if any then locate the cleaning roller and release it from its housing.
Í Fit the new roller in the printer, ensuring that it is correctly positioned in the housing.
Î Replace the ribbon and then close firstly the print head bracket and then the printer cover.



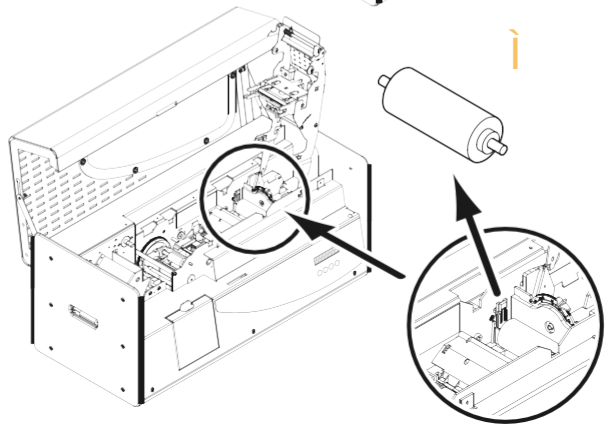
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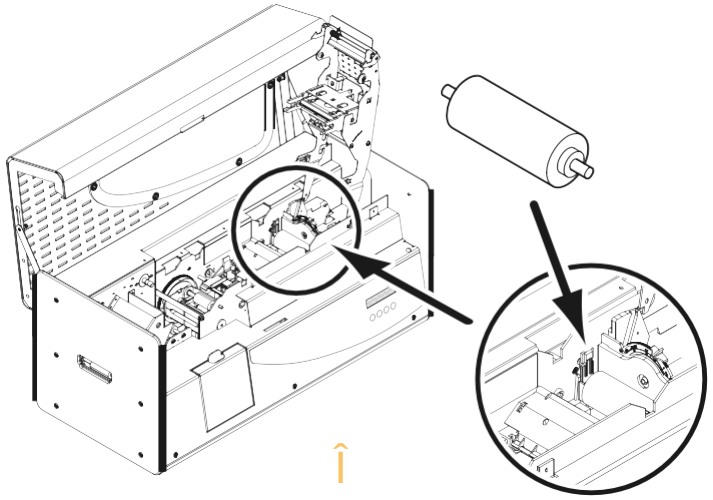


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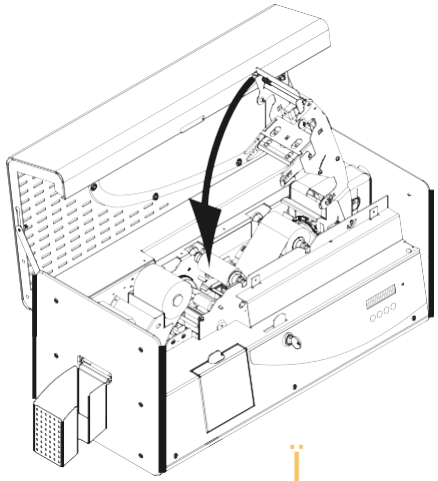


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4-4d REPLACING THE PRINT HEAD

The print head is a sensitive component of your equipment. It determines the print quality, and regular servicing along with an immediate environment free from dust or other particles ensure a lengthy useful life. Nonetheless, the print head may sometimes need to be replaced. Evolis has designed a unique device enabling users to undertake such replacement with no tools needed, simply by following the instructions very carefully.

Before doing anything else, please contact your Evolis dealer in order to check the advisability of replacing the print head. The dealer will supply a new print head if need be.



Evolis has set up a scheme for exchanging defective print heads during the printer's warranty period. Your equipment is eligible under the scheme if:

- **You use only Evolis consumables (ribbons and maintenance products).**
- **You have followed the cleaning and servicing cycles scrupulously.**
- **You are working in a dust-free environment complying with the technical specifications.**
- **You are using flat cards, with no rough patches which could damage the print head surface.**

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To exchange the print head, please proceed as follows:

Before changing the print head, please unplug the power cable.

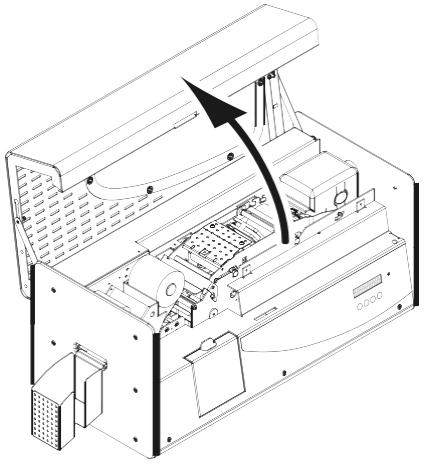
ä Step 1 - Removing the defective print head

Ê Open the printer cover.

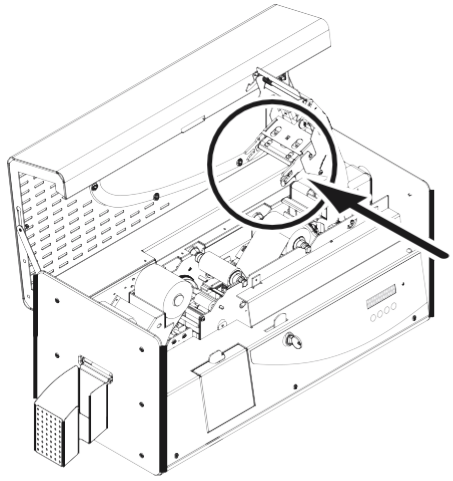
Ë Unlock the print head bracket and tilt it to the vertical position, then locate the print head.

Ì Press on the metal part found at the bottom as shown on the diagram, in order to free the lugs from the holding fork, then remove the lugs from their slots.

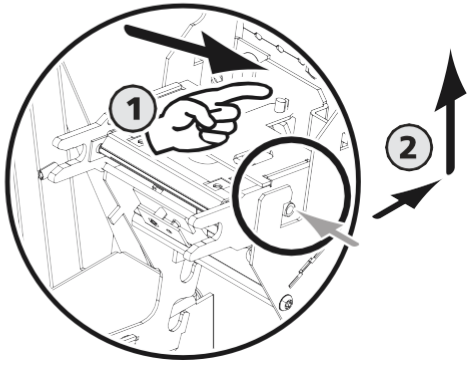
Í Tilt the head carefully and disconnect the connector linked to the cable without using force on the mechanism.



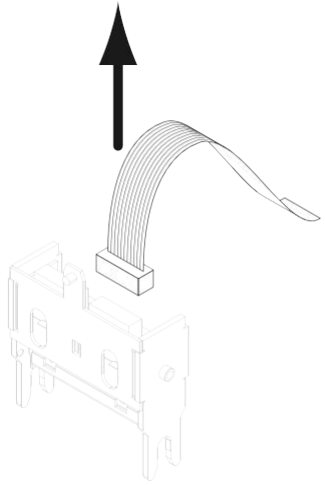
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ä Step 2 - Installing the new print head

Ê Note the code shown on the white label stuck on the print head. You will be asked for this code in Step 3.

Ë Pick up the new print head and turn it towards you, with the white connector visible.

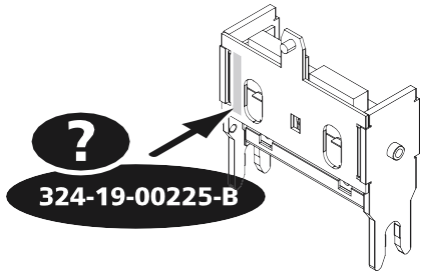
Ì Connect the cable into its socket, making sure it is the right way round. Do not use any force, as this part is relatively fragile.

Í Turn the head so that the logo is visible (be careful), the connector can no longer be seen.

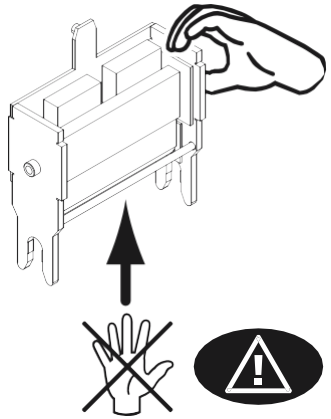
Î Insert the head vertically between the two guides so that the fork lugs are held within the slot.

Ï The head is back in position.

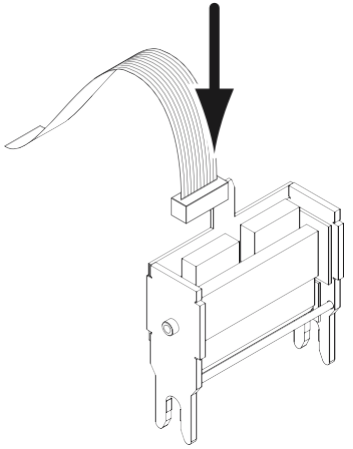
Ð Close the cover. The print head is now fitted.



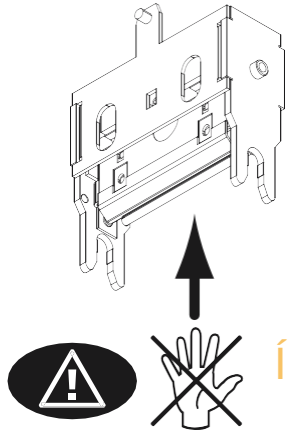
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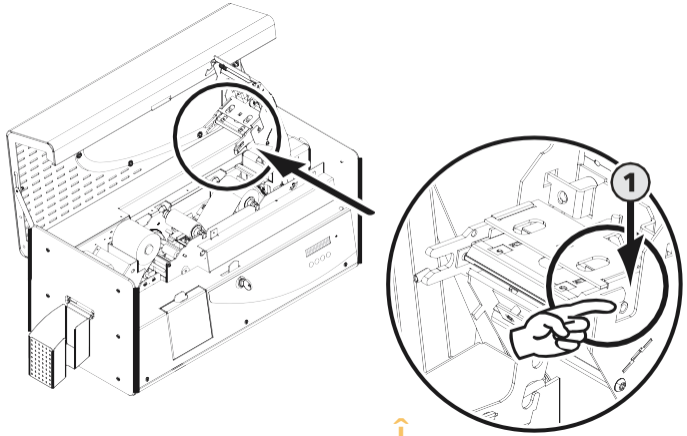
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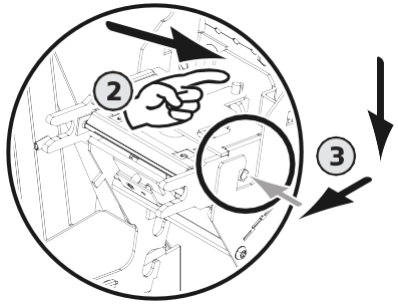
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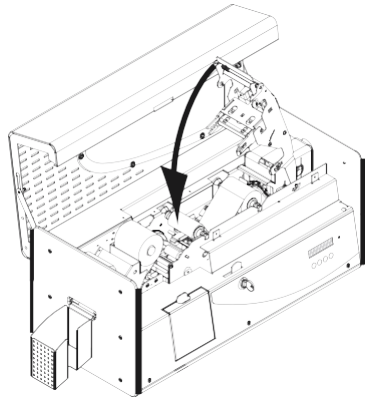
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ä Step 3 - Configuring the new print head

Ê Power up the printer and check that it is properly connected to a computer on which the printer's print driver is installed.

Ê Under the print driver's Properties, click on the "**Tools**" tab.

Ì In the "**Printer dialogue**" section, enter the following command: **Pkn;x**

where x = the print head kit code number that you noted in Step 2.
For example, if the print head kit number is 179-004-00048, the command to be entered is: Pkn;179-004-00048

If the print head kit number is not entered correctly, printer malfunctions may occur and the warranty may be voided.

ä Step 4 - Cleaning the printer

On your printer's control panel, the "CLEANING" light is lit:

Cleaning is absolutely necessary after changing the print head. No print jobs can be run until the cleaning operation has finished.
Refer to section 3 – Maintenance to carry out cleaning.

Also service the cleaning roller and then replace the cards and ribbon.
Once cleaning has been carried out, your printer is once again ready to customise your cards.

4-4e UPDATING THE FIRMWARE (UNDER WINDOWS)

Updating the firmware is a simple operation but one which, if not properly completed, can result in your printer breaking down.
Before any update, please contact your Evolis dealer who will be able to guide you on the advisability or otherwise of carrying out an upgrade. In general, such updates are only required in the event of problem or malfunction that has been clearly identified by your Evolis dealer.

Updates can be downloaded from the website at www.evolis.com :

- Select your printer model, then click on the **Print drivers and Firmware** link.
- Then click on the file for the corresponding Firmware.
- Accept the download then save the file in a directory on your hard drive. The firmware is stored compressed as a zip file, which you will need to extract.
- Then double-click on the file in the directory in order to run the firmware installation program
- When prompted by the program, click on the Download button to run the job. The firmware download is in progress.
- After about thirty seconds, the firmware has transferred to the printer and the operation is complete.
- If the printer is not showing a 'READY' status, this means that the update has not been carried out correctly or, possibly, that the printer is not working properly. Check the connection cables and run a new update.

The update is complete, and your equipment is ready to customise your cards.



Never interrupt the transfer between computer and printer during the download phase (powering off the printer or computer, unplugging a cable). This would result in a complete inability to restart the printer. Should such an incident occur, please contact your Evolis dealer, who will replace your printer's processing board.

4-4f UPDATING THE PRINT DRIVER

Updating the print driver is a task that is required in order to fix malfunctions or gain the benefit of new options.

Before any update, please contact your Evolis dealer who will be able to guide you on the advisability or otherwise of carrying out an upgrade.

Updates can be downloaded from the website at www.evolis.com :

- Select your printer model, then click on the Print drivers and Firmware link.
- Then click on the file for the corresponding print driver.
- Accept the download then save the file in a directory on your hard drive. The firmware is stored compressed as a zip file, which you will need to extract.
- Then double-click on the setup.exe file that you have just downloaded in order to run the installation program.

For more details about the procedure, please see the Installing the print driver section.



4

4-5 Technical support

If you are having difficulties in configuring and using your printer, read this manual carefully.
If you do not manage to solve your problem, you can obtain further information and help from the Evolis partner network.

4-5a EVOLIS PARTNER NETWORK

For any unresolved technical problem, contact an Evolis dealer. If you do not know any Evolis dealers, visit the **www.evolis.com** website and send us your question. Evolis will pass on the contact details of your nearest Evolis dealer. When calling an Evolis dealer, you do need to be close to your computer and ready to provide the following information:

- Your printer model and serial number
- The configuration and operating system that you are using
- A description of the incident that has occurred
- A description of the steps that you have taken to resolve the problem.

In addition, to enable you to find answers to your questions 24/7, the **www.evolis.com** website includes a number of aspects related to day-to-day use of your printer.

4-5b FINDING INFORMATION ON WWW.EVOLIS.COM

If you need additional technical help, you will find a great deal of information on using and troubleshooting Evolis printers under the **Drivers and Support** section on the Evolis website at **www.evolis.com**.

This section offers downloads of the latest versions of firmware, print drivers and user manuals, videos about using and maintaining Evolis printers, and an FAQ* section giving answers to the most frequently asked questions.

**FAQ : Frequently Asked Questions*

A

Appendix A

A1 - Technical specifications

This section presents your printer's technical printing properties.



ä Technical features

- Colour printing module and lamination module
- 300 dpi print head (11.8 dots/mm)
- USB and Ethernet TCP-IP connections
- 16 MB RAM enabling two cards to be stored (double-sided)
- Card turnover point for double-sided printing and laminating
- Detachable 100-card feeder (0.76 mm)
- 100-card output hopper (0.76 mm)
- 15-card reject hopper (0.76 mm)
- Laminator film loading guide cartridge
- Two-line LCD screen and status LEDs
- Lock for secure access to blank cards, ribbons, films and rejected cards.
- Compatible with Kensington® anti-theft devices
- RoHS compliant

ä Printing methods

- Colour sublimation and monochrome thermal transfer
- Advanced colour management system
- Edge-to-edge printing
- Double-sided printing.

ä Lamination method

- Clear overlay or patch
- Double-sided lamination
- Throughput: 2 mm/s to 18 mm/s
- Temperature range: 100° C to 180° C

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ä Encoding options & Accessories

- Encoding options (can be combined):
  - ISO 7811 HiCo/LoCo or JIS2 magnetic strip encoder
  - Smartcard contact station - ISO 7816-2
  - Smartcard encoder and contact station – PC/SC, EMV 2000-1
  - Contactless card encoder - ISO 14443A, B, ISO 15693, Mifare, DesFire, HID iCLASS
  - Other specific encoders on request
- 100-card additional card feeder, available in red, blue and green

ä Print ribbon types

- 2-panel KO monochrome black ribbon – 500 cards/roll
- 5-panel YMCKO colour ribbon – 200 cards/roll
- 6-panel YMCKO-K colour ribbon – 200 cards/roll
- 1/2-panel YMCKO colour ribbon – 400 cards/roll
- Monochrome ribbons – up to 1000 cards/roll (black, red, green, blue, white, gold and silver)

ä Lamination film types

- Thin holographic overlay film, full card - 350 and 400 cards/roll
- Clear 1 mil patch – 200 cards/roll
- Clear 0.5 mil patch – 200 cards/roll
- Front-back alternating 0.5 and 1.0 mil patch – 100 cards/roll
- Thin patches and films on request: holograms, security ink, special sizes

ä Printing and laminating speed

- Single-sided YMCK-K, patch – 85 to 105 cards/hour
- Single-sided YMCK, patch – 95 to 120 cards/hour

ä Card format

- ISO CR-80 - ISO 7810 (53.98 mm x 85.60 mm)

ä Card types

- All PVC and PVC composite cards
- Lamination on conventional PVC cards, recommended with 0.5 mil film or overlay

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Card thickness

- From 0.25 mm to 1 mm
- No lamination under 0.50 mm, recommended from 0.76 mm

Operating systems

- Windows™ XP Vista 32 & 64 bits
- Other version of Windows™, MAC™ OS X, Linux on request

Interface

- USB and Ethernet TCP-IP (USB cable supplied)

Printer dimensions

- Without output hopper: 274.64 mm (H) x 562.70 mm (L) x 262.16 mm (W)
- With output hopper: 274.64 mm (H) x 658.20 mm (L) x 262.16 mm (W)

Printer weight

- 15.4 Kg

Power supply

- Power supply unit: 100-240 V AC, 50-60 Hz, 2 A
- Printer: 24 V DC, 6.25 A

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ä Environment

- Min/max operating temperature: 15° / 30° C
- Humidity: 20% to 65% non-condensing
- Min/max storage temperature: -5° / +70° C
- Storage humidity: from 20% to 70% non-condensing
- Operating ventilation: air cooled.

ä Warranty

- Two-years (printer, laminator unit, print head ad hot roller) limited to 100,000 customised cards[1]



[2] *Warranty subject to strict compliance with specific usage and maintenance conditions and the use of Evolis consumables*

B

Appendix B

B1 - Compliance statements

In this section, you will find the certifications for your Evolis printer.



Compliance statements

As regards Safety and Electromagnetic Compatibility

Manufacturer name:	Evolis Card Printer
Manufacturer address:	14, avenue de la Fontaine Z.I. Angers Beaucouzé 49070 Beaucouzé, France
Equipment name :	Securion
Year of manufacture :	2007

I, the undersigned,
Monsieur **Serge Olivier,**
hereby declare that the equipment named above, used and installed in accordance with the notice, complies with the essential requirements of Directives 2006/95/EC and 2004/108/EC by application of the following standards:

EN 60950-1 of 2001
EN 55022 Class B of 1998: A1 (2000), A2 (2003)
EN 55024 of 1998: A1 (2001), A2 (2003)
EN 61000-3-2 of 2000
EN 61000-3-3 of 2000 +A1 of 2001

CE

Full name: Serge Olivier
Position: Technical director
Date : January 2007
Signature :

EUROPE - Norway Only: This product is designed for IT power system with phase-to-phase voltage 230V. Earth grounding is via the polarized, 3-wire power cord.
FI: "Laite on liitettava suojamaadoitus koskettimilla varustettuun pistorasiaan"
SE: "Apparaten skall anslutas till jordat uttag"
NO: "Apparatet ma tilkoples jordet stikkontakt"

FCC Federal Communications Commission notice

Radio frequency interference in the United States

Securion models comply with the following specification: FCC Part 15, Subpart A, Section 15.107(a) and Section 15.109(a) Class B Digital device.

Additional information:
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try the following measures:
- Reorient or relocate the receiving antenna.
- Increase the distance between the equipment and the radio or television.
- Connect the equipment to a circuit other than that to which the receiver is connected.
- Consult the supplier or an experienced radio/TV technician.

Use of a shielded twisted pair cable is necessary to comply with the restrictions laid down by part 15 of the FCC Rules for Class B digital devices.
Pursuant to Part 15.21 of the FCC Rules, any changes or modifications made to this equipment without the express, written consent of Evolis Card Printer may cause harmful interference and void the FCC authorisation to operate this equipment.

Japanese radio frequency interference (VCCI)

This equipment is Class B information technology equipment based on the rules laid down by the Voluntary Control Council For Interference by Information Technology Equipment (VCCI). Its use in or close to a residential area may cause radio interference, in which case, you must take appropriate steps.

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＢ情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。

C

Appendix C

C1 - Encoding options

Some models of Evolis printers are equipped with encoding systems which are used to customise magnetic strips, and contact and contactless smartcards.

Depending on the model, it is possible to install up to three types of encoder in the printer (magnetic strip, contact and contactless smartcards).

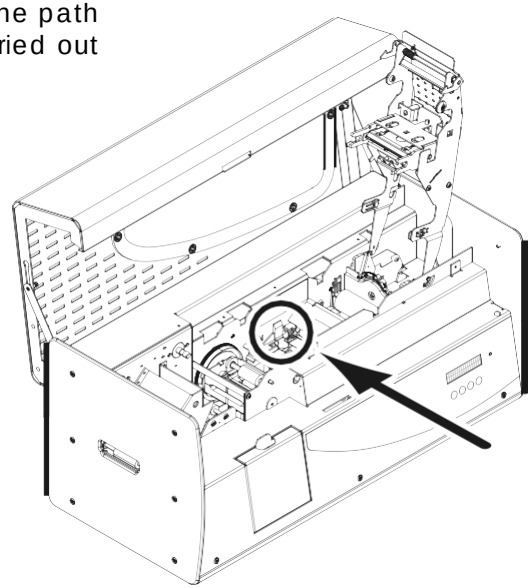


C1a - MAGNETIC STRIP ENCODING

A printer fitted with a magnetic encoder works in exactly the same way as a basic card printer. The Evolis encoder encodes the magnetic strips in a single pass then runs a data check.
Configurable as high coercivity (HiCo) or low coercivity (LoCo) by a simple click in the Windows print driver, Evolis magnetic encoders are however shipped with a default setting of high coercivity (HiCo), unless otherwise requested when placing the order.

ä Location of the magnetic encoder

The magnetic encoder is a module fitted in the factory. The read-write head is located under the path taken by the cards and after the print head. The encoding sequence for a card is always carried out before the printing.



Use only magnetic strip cards that comply with ISO 7810 and ISO 7811 standards.
The magnetic strip must be moulded into the card to work properly.
Never use cards with a glued-on magnetic strip.

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ä Card positioning

Magnetic strip cards must be placed in the card feeder so that the magnetic strip is facing upwards as shown below:

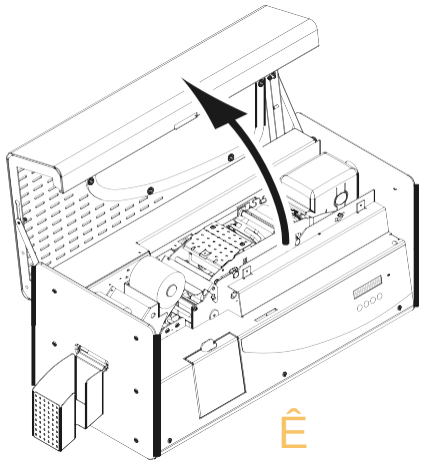
Ê Open the printer cover.

Ë Remove the card feeder from the printer as shown.

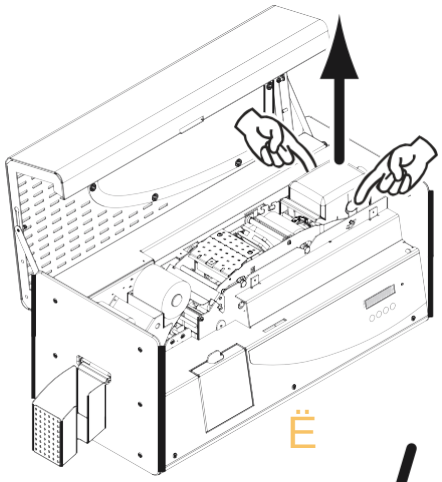
Ì Lower the spring system as shown and insert a maximum of 100 x 0.76 mm magnetic cards.

Í Put the feeder back into the printer. Then press on the upper section of the feeder until it clicks.

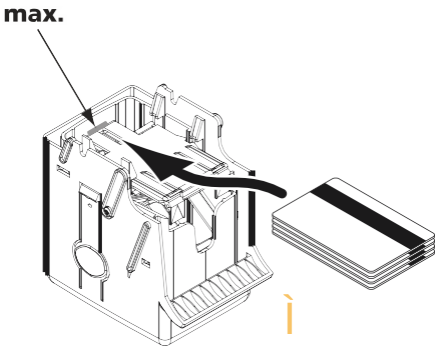




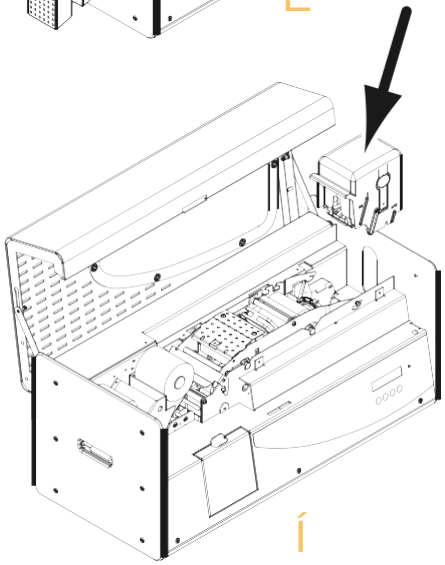
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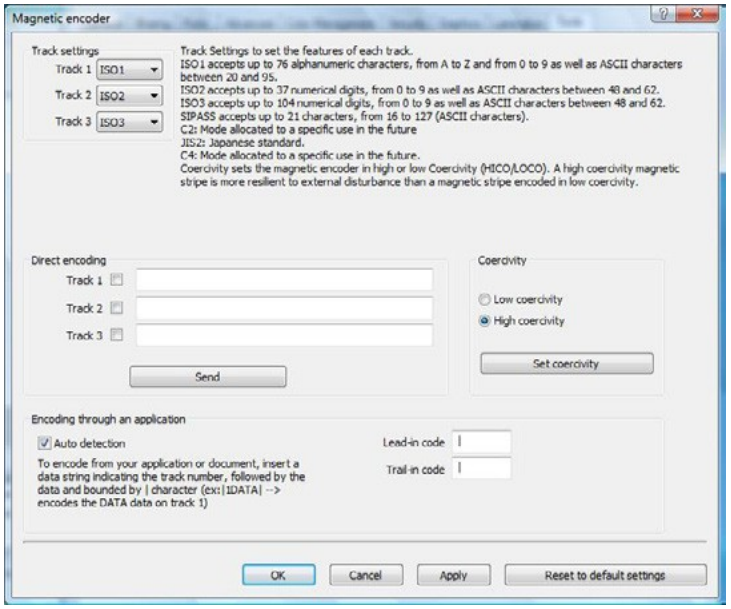
C



ä Configuring the Windows print driver

When first installing the Windows print driver, the magnetic encoder functions need to be configured. The magnetic encoder functions are found in the print driver's **Tools** dialogue box by clicking on the **Encoding Settings** button.

ä "Magnetic Encoder" dialogue box



The **Magnetic Encoder** dialog box opens when the **Encoding Settings** button is selected.

Track settings is used to select the desired ISO standard for each magnetic strip. See the table in this Appendix for information regarding ISO 7811 standards.

Coercivity sets the magnetic encoding to high (HiCo) or low (LoCo) coercivity. A magnetic strip that is encoded in high coercivity is more resistant to external disturbance than a magnetic strip encoded using low coercivity.

Direct encoding is used to directly encode one or more magnetic strips from this window simply by selecting them and entering the data to be encoded. Click on the "Send" button (previously "execute encoding") to run the encoding cycle.

Automatic extraction is used to encode magnetic strip cards from applications under Windows (such as Word for example). A text field enclosed within "|" and "|" characters (or some other character which the user can define) will be interpreted as an encoding command by print driver.

ä Cleaning the magnetic encoder

The magnetic encoder head requires regular maintenance in order to ensure the integrity of the data encoded onto cards. Cleaning of the magnetic encoder is carried out when the printer runs a cleaning sequence with impregnated cards (see the "Maintenance" section of this manual for further information).

Repeatedly running the cleaning card through the printer cleans the card feed rollers, the cleaning rollers, the print head and the magnetic encoder read-write head.

If, in between two routine printer cleaning runs (every 1000 cards inserted), the read-write process fails with more than one card, it is recommended to run a printer cleaning sequence manually (please see the "Maintenance" section of this manual for the procedure to follow).

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ä ISO 7811 magnetic encoding standards

Track number	Separator	Density	Character set	Number of characters
Track 1	^	210 ppp[1]	Alphanumeric (ASCII 20-95)[2]	79[3]
Track 2	=	75 ppp[1]	Numeric (ASCII 48-62)[2]	40[3]
Track 3	=	210 ppp[1]	Numeric (ASCII 78-62)[2]	107[3]

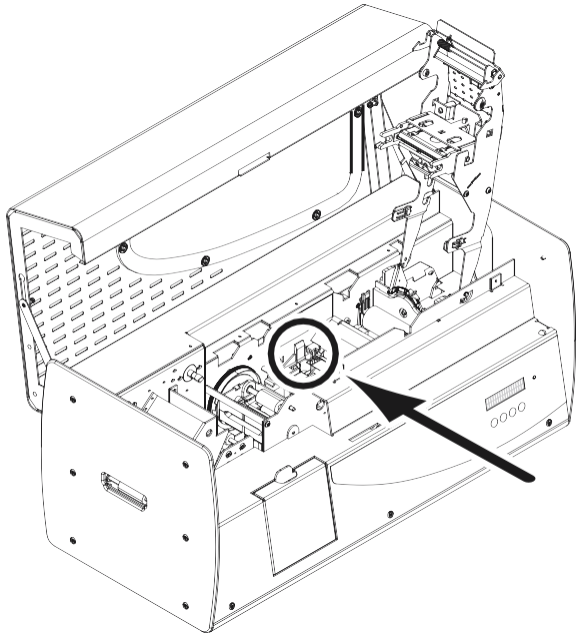
[1] bits per inch
[2] Except for the "?" character
[3] Including the Start, Stop and LRC characters which are automatically handled by the magnetic encoder

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C1b - CONTACT SMARTCARD ENCODING

A printer fitted with a smartcard contact station works in exactly the same way as a basic card printer. The Evolis smartcard contact station is used to program chips to ISO 7816-2 standards.

ä Contact station location



The contact station is a module fitted in the factory. It is located over the path taken by the cards and before the print head. To make contact with the station, the smartcard is positioned underneath it and is pushed mechanically upwards. The programming sequence for a smartcard is always carried out before the printing.

Use only smartcards compliant with the ISO 7816-2 standard.
Never print over the chip.



ä Card positioning

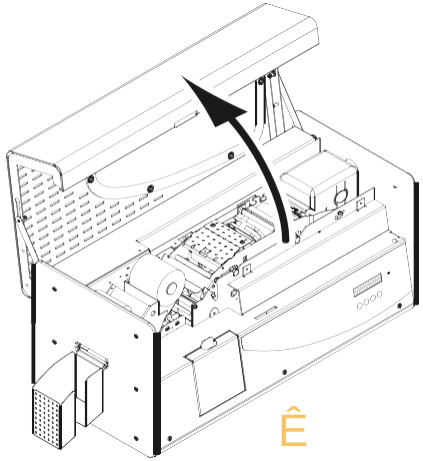
Smartcards must be placed in the card feeder so that the chip is facing downwards as shown below:

Ê Open the printer cover.

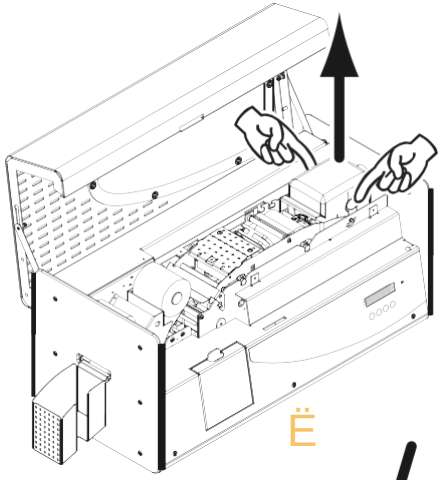
Ë Remove the card feeder from the printer as shown.

Ì Lower the spring system as shown and insert a maximum of 100 x 0.76 mm magnetic cards (chip down).

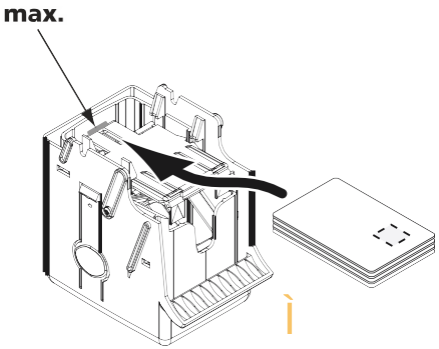
Í Put the feeder back into the printer. Then press on the upper section of the feeder until it clicks.



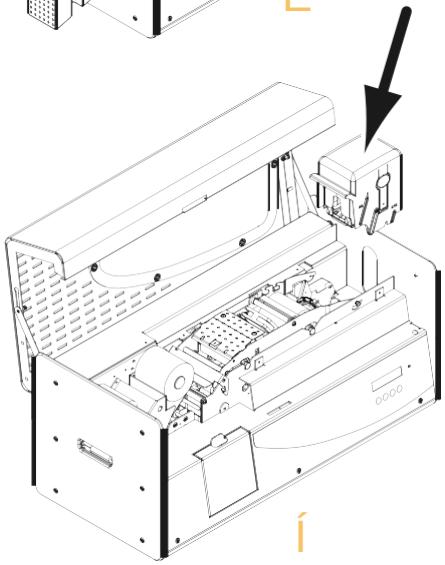
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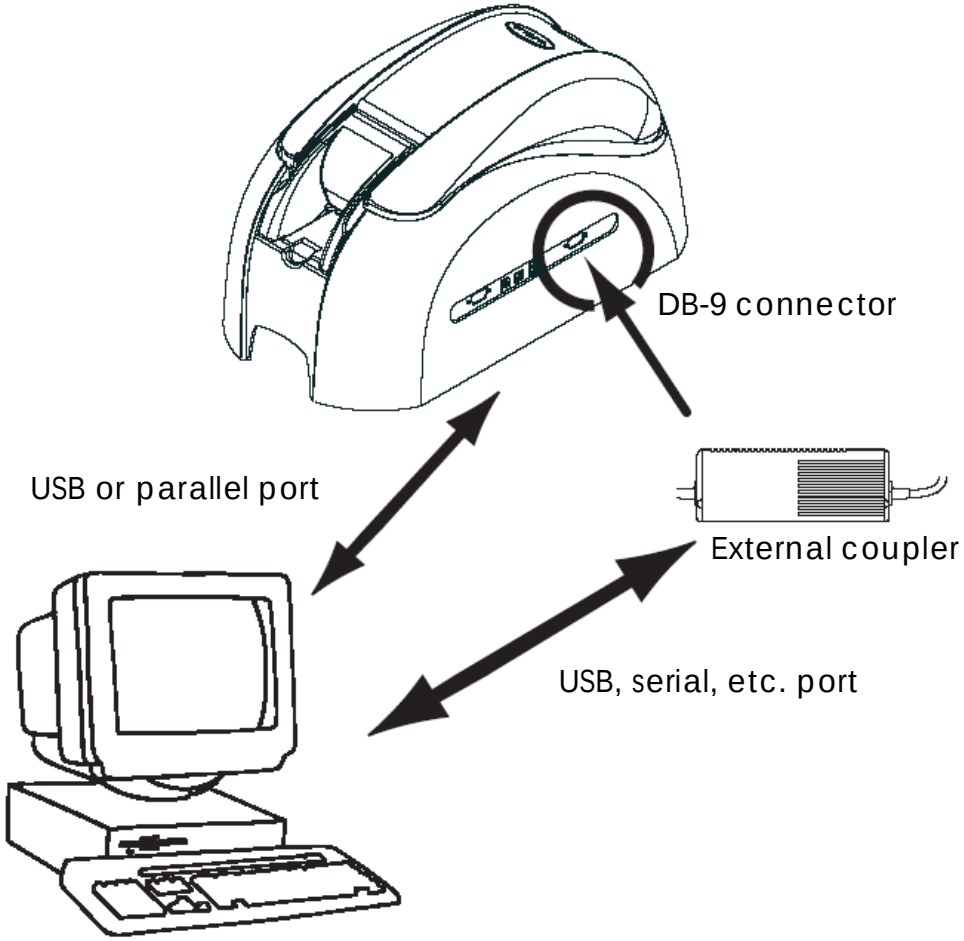
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ä Contact station interface

Printers with a smartcard contact station are fitted with a female DB-9 connector which is found on the back of a printer. This connector, directly connected to the contact station inside the printer, is also connected to an external coupler to program the chip.



C



DB-9 connector pins	Smartcard contact points
1	C1 : Vcc
2	C2 : RST, Reset
3	C3 : CLK, Clock
4	C4 : Reserved
5	C5 : GND, Ground
6	C6 : Vpp
7	C7 : I/O, Input/Output
8	C8 : Reserved
9	C9 : OPTO+, Card detection signal

A sequence of commands must be sent via the printer's interface to insert a card into the printer then position it under the station and establish contact.

The command sequence is as follows:

Sending the SIS sequence:

- A card is moved from the feeder to the contact station, and stops underneath it.
- The card is pushed upwards to make contact with the station.
- The printer connects the contact station to the DB-9 connector.
- The chip is programmed via the computer's serial interface and the external coupler.



Refer to the Evolis printer Programming Guide for further details on programming smartcards.

The Evolis product catalogue has printers equipped with a chip contact station and a built-in encoder. Depending on the model, these encoders connect to the PC via an RS-232 interface (DB-9 socket) or a USB interface.

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C1c - CONTACTLESS SMARTCARD ENCODING

Evolis printers may be equipped with an encoding device for contactless smartcards (RFID). This consists of an encoding module and sometimes a detachable antenna.
Integration of such a module must be carried out by specialist. The Evolis product catalogue has printers equipped with a built-in encoder for contactless chips.
Depending on the model, these encoders connect to the PC via an RS-232 interface (DB-9 socket) or a USB interface.
There is a very wide variety of contactless cards, and each card has specific technical properties associated with an equally specific type of encoder. See your Evolis dealer for further information.



ä Location of the antenna (or the encoder including an antenna)

By means of a specific command, the card is positioned close to the antenna such that the card lies within its radio range.
Reading data from or writing data to the card can then start.
The programming sequence for a smartcard is always carried out before the printing.

ä Card positioning

On the face of it, there are no restrictions on card positioning when programming in contactless mode.
However, the miniaturisation of components is bringing about the emergence of cards fitted with mini-antennae.
In this situation, please see your card supplier for further information about where such mini-antennae are located within the card, so as to present the card as close as possible to the encoder's antenna. Doing so will ensure optimum encoding of the cards.

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ä Computer connection

If your encoder is supplied with an USB interface, it will either be connected to the printer's internal USB Hub, or equipped with a USB cable to connect to your computer directly.
in the first case, your printer's USB cable is used to drive firstly the printer and secondly the encoder from the computer.
If your encoder is supplied with an RS-232 interface, it needs to be connected to the computer via a serial cable. This cable plugs into the printer's female DB-9 socket, and into a COM port on the computer.

DB-9 connector pins	RS-232 signals (serial)
1	Not used
2	RxD
3	TxD
4	Not used
5	Not used
6	Not used
7	RTS
8	CTS
9	Not used

A sequence of commands must be sent via the printer's interface to insert a card in the printer then position it close to the antenna to establish radio communication between the card and the encoder.

The command sequence is as follows:
Sending the SIC sequence:

- A card is moved from the feeder towards the antenna and is positioned nearby.
- The chip is programmed via the computer's serial (or USB) interface connecting the built-in encoder and the computer.



Refer to the Evolis printer Programming Guide for further details on programming contactless smartcards.