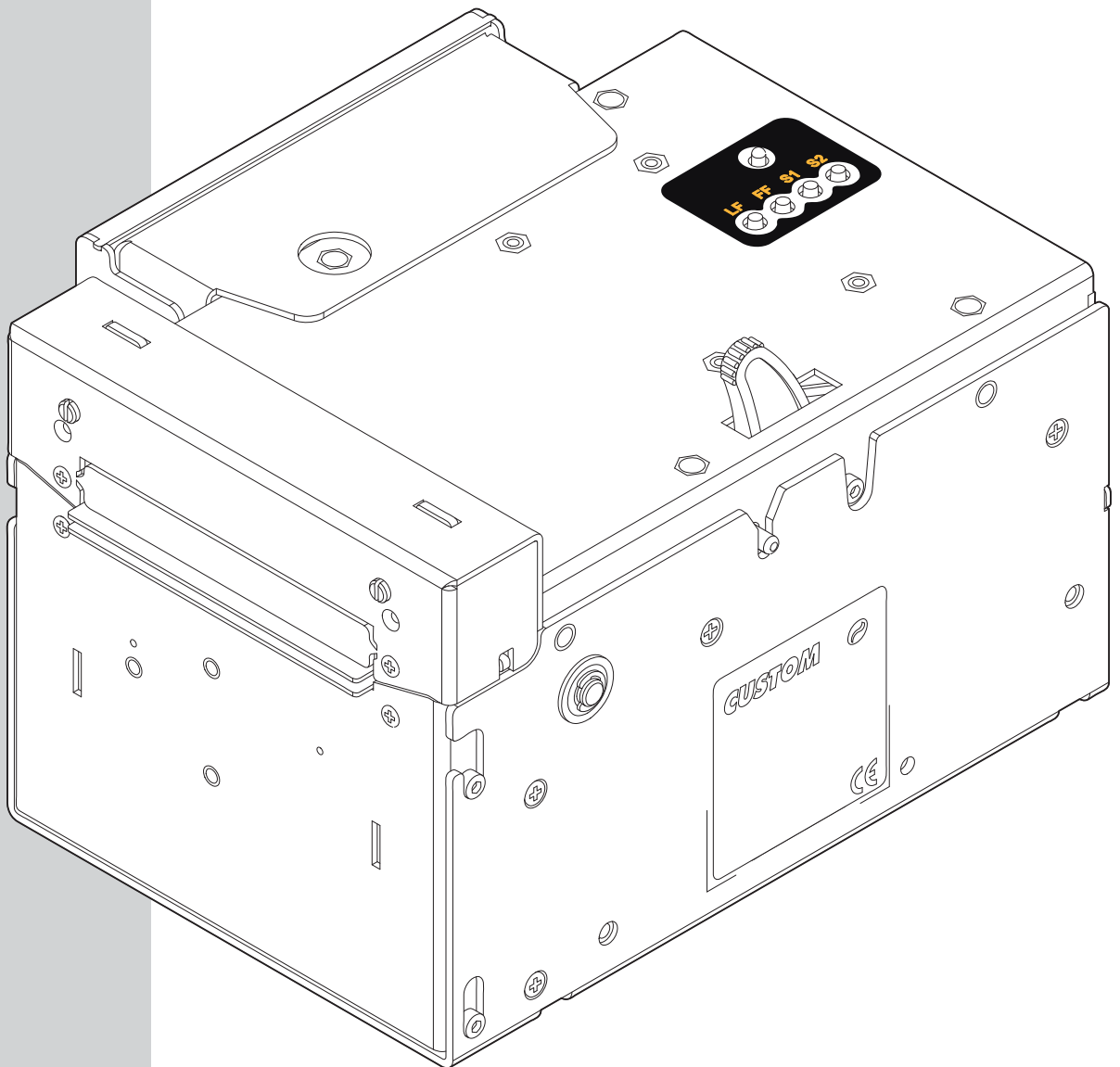


# KPM300

## USER MANUAL



**OEM**

Commands Reference: **DOMC-0019E**

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---

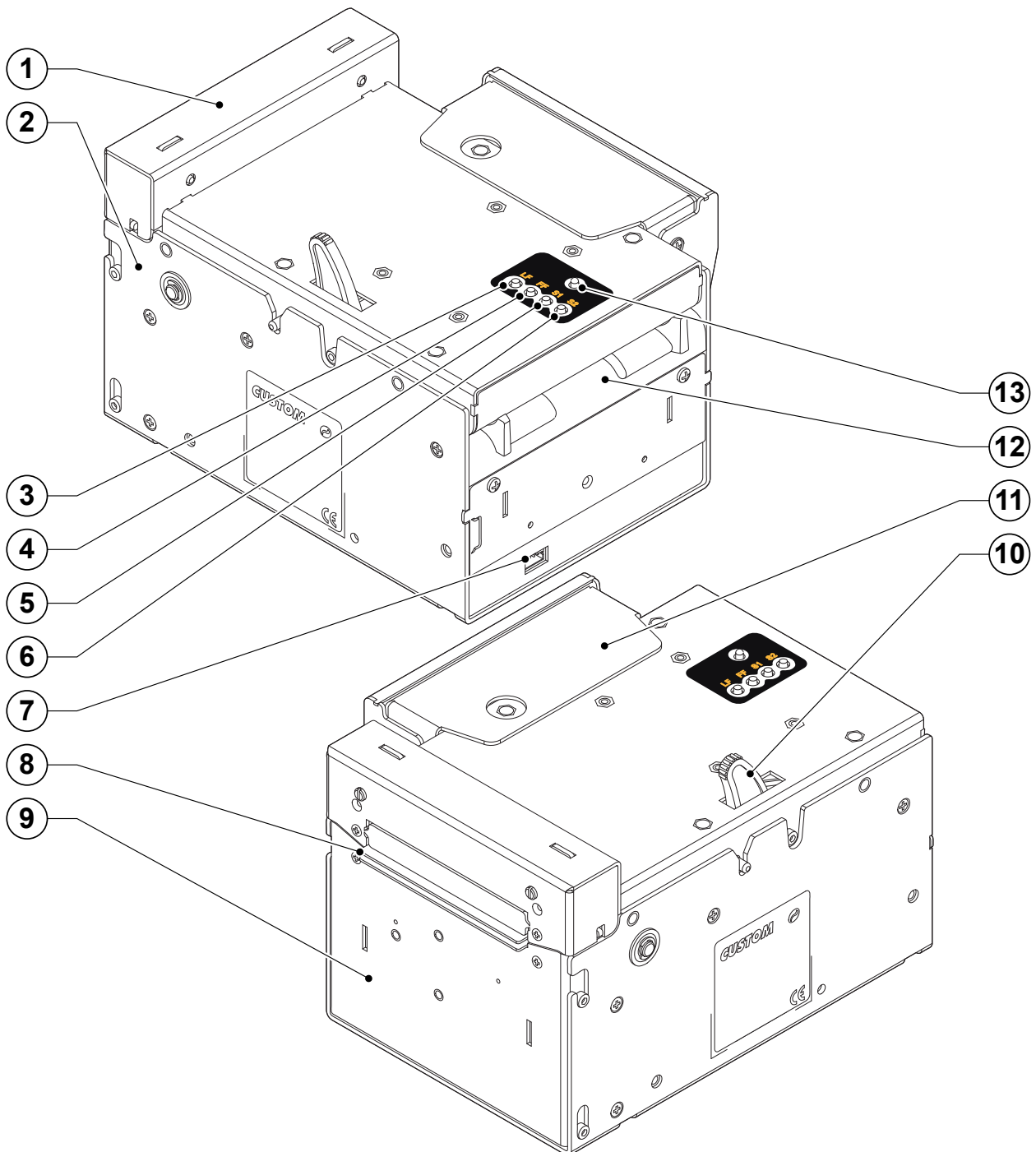
**The images used in this manual are used as an illustrative examples.  
They couldn't reproduce the described model faithfully.**

**The informations given in this manual are referred to all models  
unless otherwise specified**

## PRINTER COMPONENTS

### A. KPM300 VERIPRINT® - External views

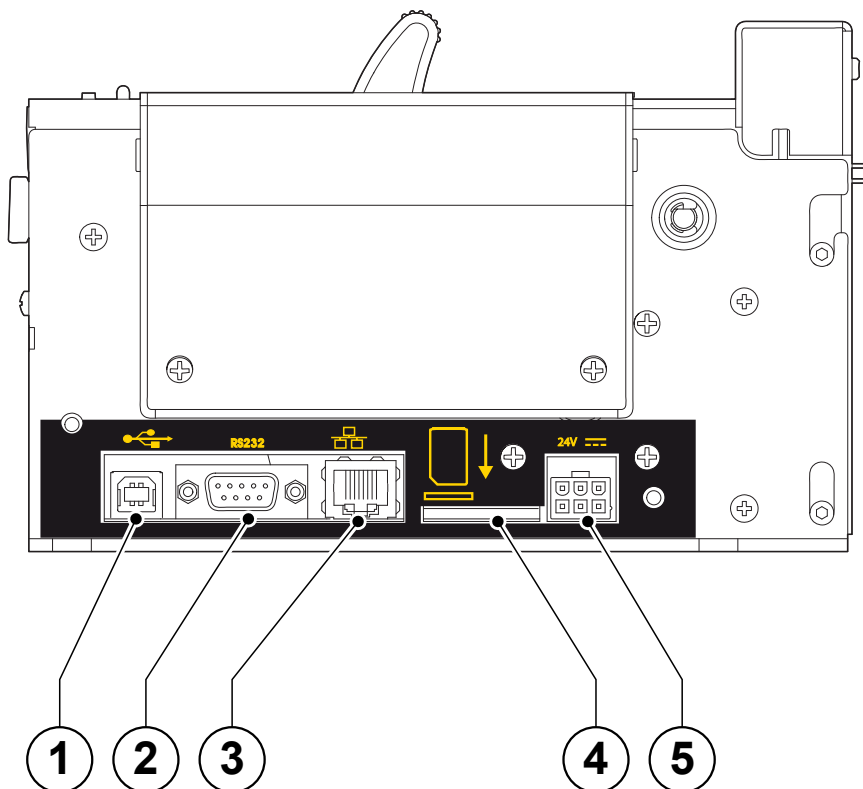
- |  |                     |
|--|---------------------|
| 1 - Printing head set                        | 8 - Paper outfeed   |
| 2 - Printer frame                            | 9 - Cutter cover    |
| 3 - LINE FEED key                            | 10 - Release lever  |
| 4 - FORM FEED key                            | 11 - Closing carter |
| 5 - S1 key                                   | 12 - Paper input    |
| 6 - S2 key                                   | 13 - Status led     |
| 7 - External near paper end sensor connector |                     |



---

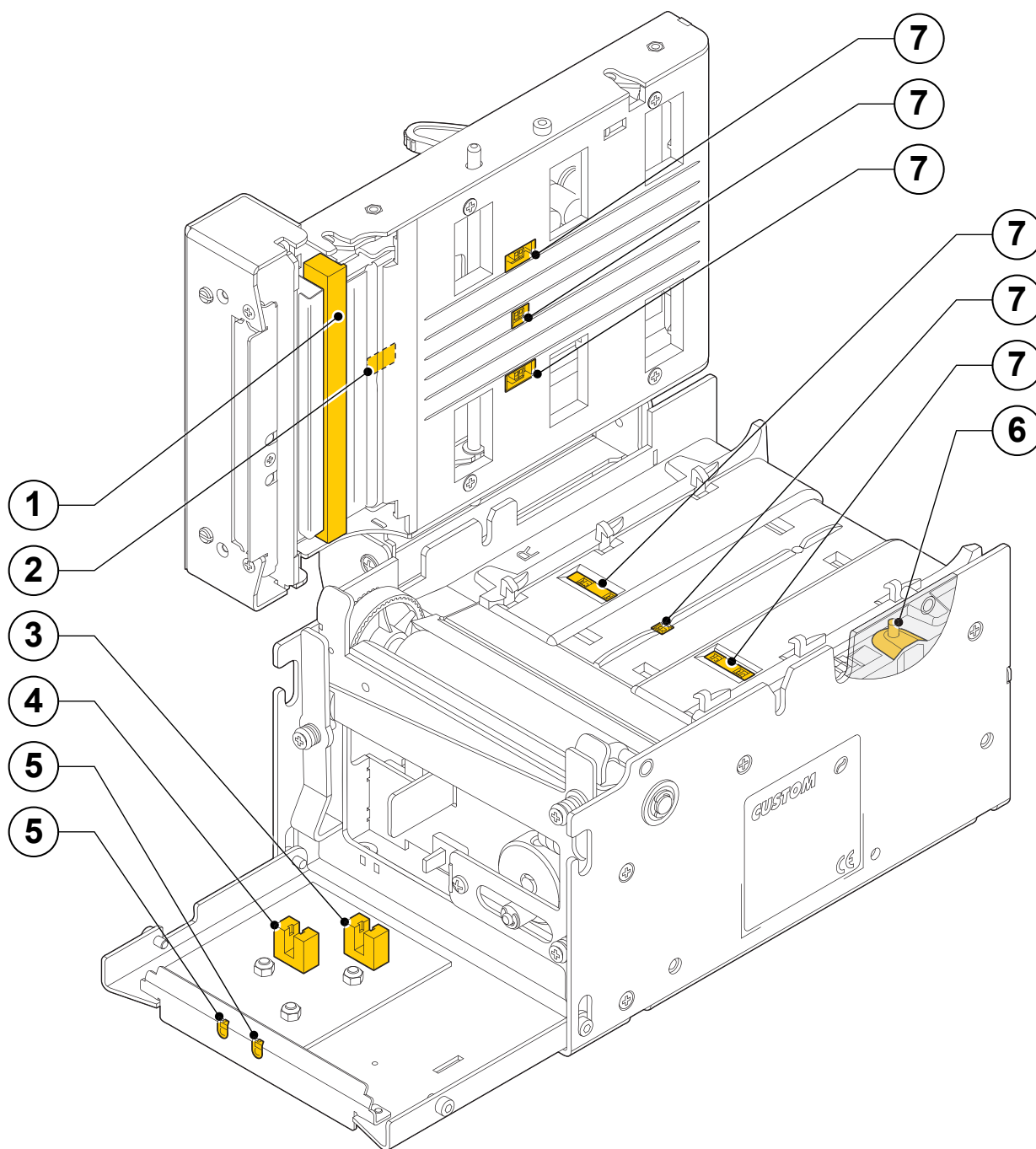
## B. KPM300 VERIPRINT® – External connectors view

1. USB connector
2. RS232 connector
3. ETHERNET connector
4. SD/MMC card
5. Power Supply connector



### C. KPM300 VERIPRINT® - Inside view of sensors position

1. Image sensor
2. Head temperature sensor
3. Cutter position sensor
4. Opening/closing front cover sensor
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## **1 INTRODUCTION**

In addition to the Introduction which includes a description of the explanatory notes used in the manual, general safety information, how to unpack the printer and a brief description of the printer including its basic features, this manual is organized as follows:

Chapter 1:	Contains a general description
Chapter 2:	Contains the information required for correct printer installation and its proper use
Chapter 3:	Contains information on interface specifications
Chapter 4:	Contains technical specifications of the printer
Chapter 5:	Contains the character sets (fonts) used by the printer

### **1.1 EXPLANATORY NOTES USED IN THIS MANUAL**



#### **NOTE**

Gives important information or suggestions relative to the use of the printer.



#### **WARNING**

Information marked with this symbol must be carefully followed to guard against damaging the printer.



#### **DANGER**

Information marked with this symbol must be carefully followed to guard against operator injury or damage.

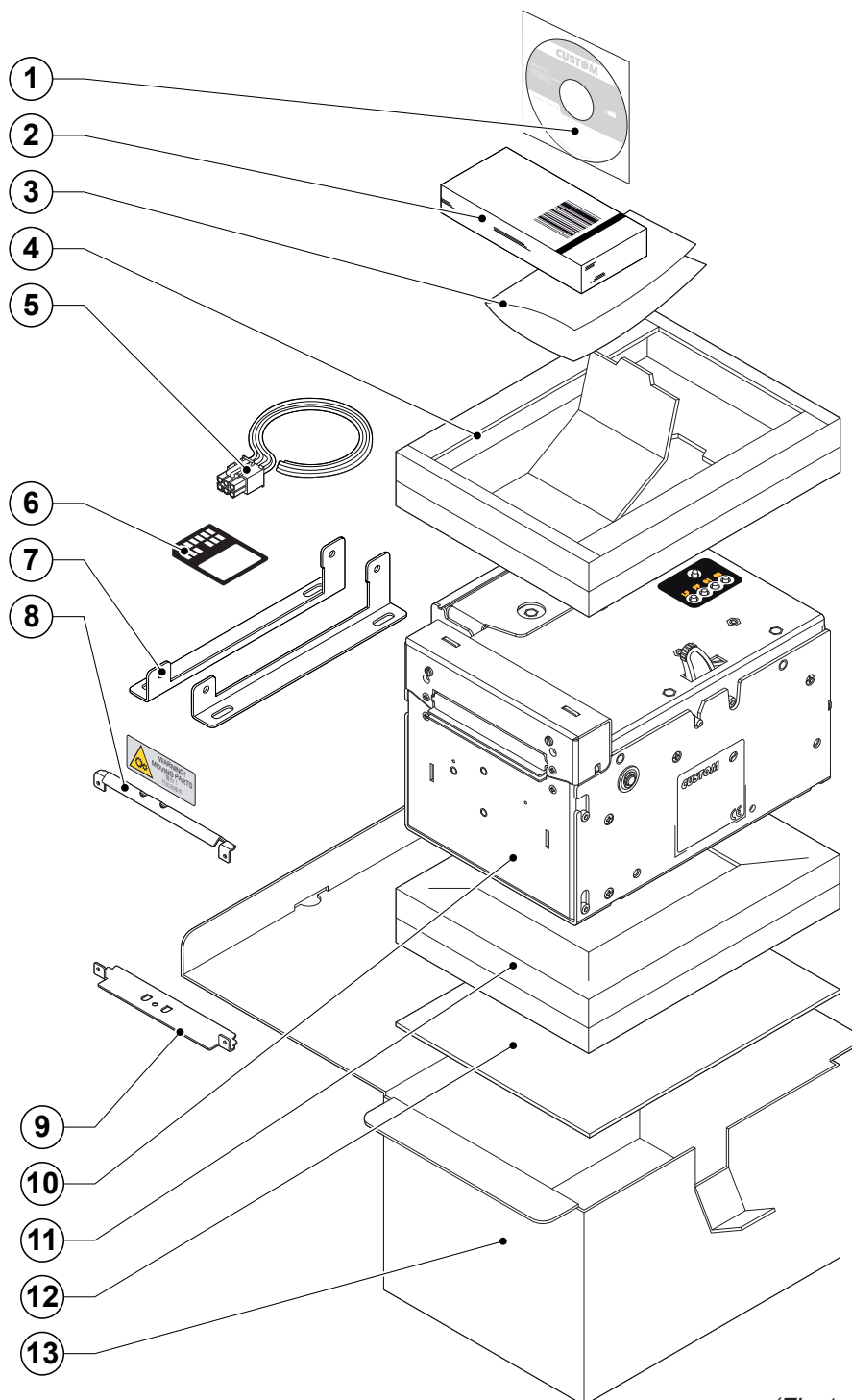
### **1.2 GENERAL SAFETY INFORMATION**

- Read and keep the instructions which follow.
- Follow all warnings and instructions indicated on the printer.
- Before cleaning the printer, disconnect the power supply.
- Clean the printer with a damp cloth. Do not use liquid or spray products.
- Do not operate the printer near water.
- Do not use the printer on unstable surfaces that might cause it to fall and be seriously damaged.
- During the integration of the printer, we strongly warn to keep an adequate paper loop outlet underneath the presenter, in order to allow the receipt being properly printed out.
- Only use the printer on hard surfaces and in environments that guarantee proper ventilation.
- Make sure the printer is placed in such a way as to avoid damage to its wiring.
- Use the type of electrical power supply indicated on the printer label. If in doubt, contact your retailer.
- Do not block the ventilation openings.
- Do not introduce foreign objects of any kind into the printer as this could cause a short circuit or damage parts that could jeopardize printer functioning.
- Do not spill liquids onto the printer.
- Do not carry out technical operations on the printer, with the exception of the scheduled maintenance procedures specifically indicated in the user manual.
- Disconnect the printer from the electricity supply and have it repaired by a specialized technician when:
  - A. The feed connector has been damaged.
  - B. Liquid has seeped inside the printer.
  - C. The printer has been exposed to rain or water.
  - D. The printer is not functioning normally despite the fact that all instructions in the users manual have been followed.
  - E. The printer has been dropped and its outer casing damaged.
  - F. Printer performance is poor.
  - G. The printer is not functioning.

### 1.3 UNPACKING THE PRINTER

Remove the printer from its carton being careful not to damage the packing material so that it may be re-used if the printer is to be transported in the future. Make sure that all the components illustrated below are present and that there are no signs of damage. If there are, contact Customer Service.

1. CD-rom
2. Fan Fold module
3. Installation instructions sheet
4. Upper packing frame
5. Power supply cable
6. SD/MMC Card
7. Additional fixing brackets
8. "CUT AND DROP" configuration kit
9. "BUSTER" configuration kit
10. Printer
11. Lower packing frame
12. Lower tray
13. Box



(Fig.1.1)

- Open the printer packaging
- Take out all the contents of the tray top and then the protective tray.
- Take out the printer.
- Keep the box, trays and packing materials in the event the printer must be transported/shipped in the future.

## **1.4 PRINTER FEATURES**

KPM300 VERIPRINT® is a very fast ticket printer, on high quality and full printing. The ARM processor (266MHz) allows high and fast processing capability. The printer is available with optional barcode reader for reading pre-printed modules and manages both paper roll and fan-fold.

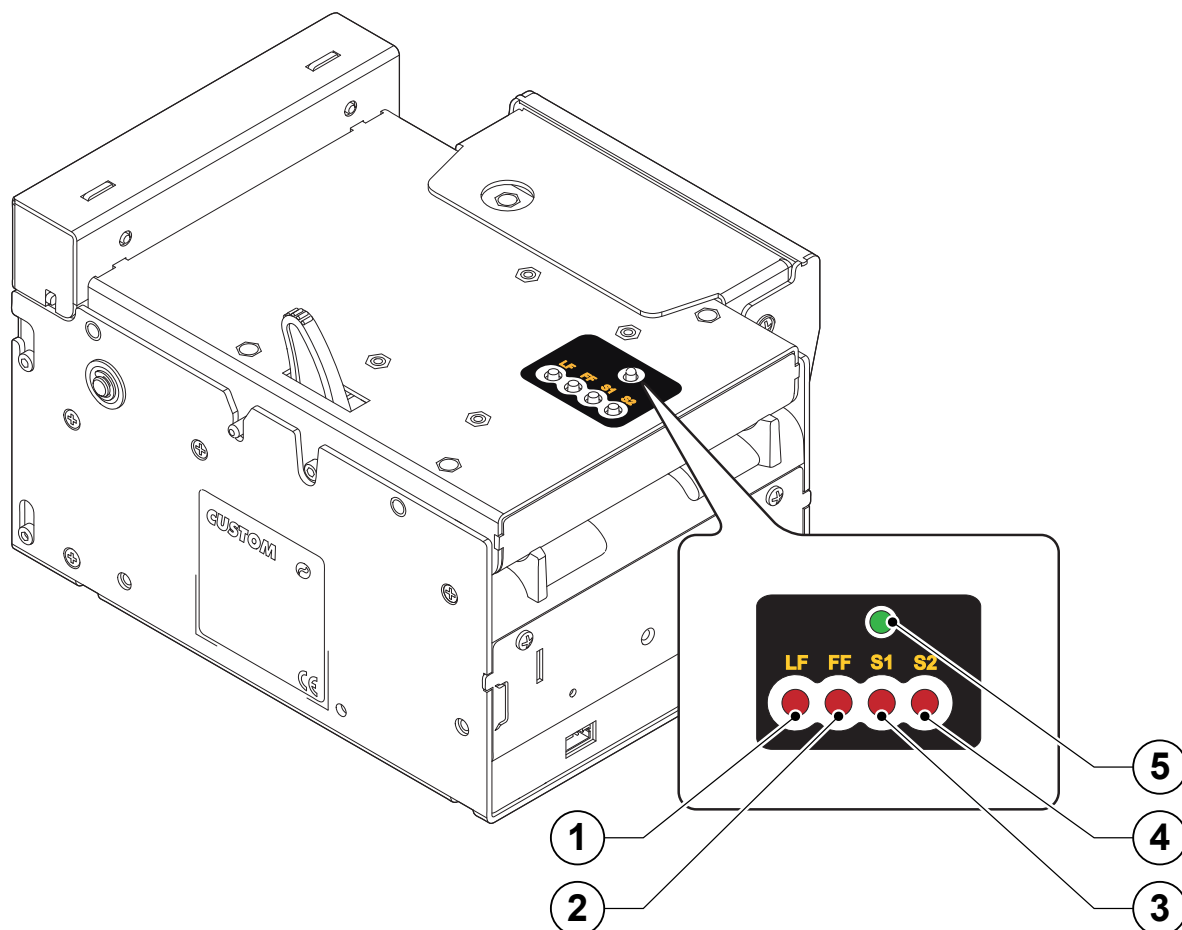
The printer offers a wide range of options in addition to normal print features:

- Ticket width: from 54 to 82.5mm (2mm step) setting from printer setup, with paper thickness from 80 to 255 gr/m².
- Resolution 203 dpi / enhanced quality head
- Horizontal resolution for storage 600/300/200 dpi.
- Vertical resolution for storage 400/300/200 dpi.
- Scanning width 84mm.
- High printing speed
- Arm processor (266 MHz).
- Interfaces : Serial RS232, USB, ETHERNET
- ESC/POS™ emulation, SVELTA emulation.
- Character set fonts (ESC/POS™ emulation: 3 standard and international; SVELTA emulation: 20 fonts).
- Completely or partially programmable fonts.
- Double width/height, quadruple width/height, expanded, italic, rotated 90°, 180° and 270°.
- Receive buffer: 8 Kbytes.
- Definition of function macros for automatic operation repetition.
- Internal programmable counter.
- Graphic print mode.
- Print density (from -50% to +50%).
- Sensors: Black mark sensor available in 6 position and translucent gap, ticket sensor, hole mark sensor (set by software)
- Working with paper roll or Fanfold module
- SD/MMC Multimedia Card for logo, font storage expansion...
- Paper cutter.
- Equipped with Real Time clock.
- Options :   Fan-Fold holder and external paper holder support.  
                  Equipped with barcode reader for reading pre-printed modules (Bar code UPC-A. UPC-E, EAN13, EAN8, CODE39, ITF, CODABAR, CODE93, CODE128 and CODE32).  
                  Optionally equipped with RFID Reader/writer (mifare/icode).

### 1.5 PRINTER DESCRIPTION

The printer is comprised of a metal frame, printing mechanism, a cutter and an ejector. Located on the keypad (see fig.1.2) are the following keys: LF LINE FEED (1), FF FORM FEED (2), S1 (3), S2 (4) and STATUS led (5).

- **LF LINE FEED key** When the LF LINE FEED key is pressed, the printer advances the paper so that it may be inserted manually in the printing mechanism. During power-up, if the LF LINE FEED key is held down, the printer enters the print setup routine. Following the print-out of the setup report, the printer remains in standby until a key is pressed or signals arrive from the serial port; each 8 characters it prints out hexadecimal and ASCII codes (if the characters are underlined, the receive buffer is full); see Receive buffer hexadecimal print-out.
- **FF FORM FEED key** When the FF FORM FEED key is pressed, the printer execute the form feed. During power-up, if the FF FORM FEED key is held down, the printer executes the FONT TEST.
- **S1 key** Normally, when the S1 key is pressed, doesn't execute any function. During power-up, if the S1 key is held down, the printer initializes the notch sensor and characterizes the paper.
- **S2 key** If the Alignment is enabled, when the S2 key is pressed, the printer executes a ticket alignment and performs a cut.



(Fig.1.2)







**NOTE:** During power-up, do not press the S2 key because the printer enter in a test modality that becomes unusable by keys; if this event occurs then turn off the printer and turn on without pressing any key.

- STATUS LED

The Status led indicates printer status; the check is made on-line. Given in the table below are the various LED signals and the corresponding printer status.

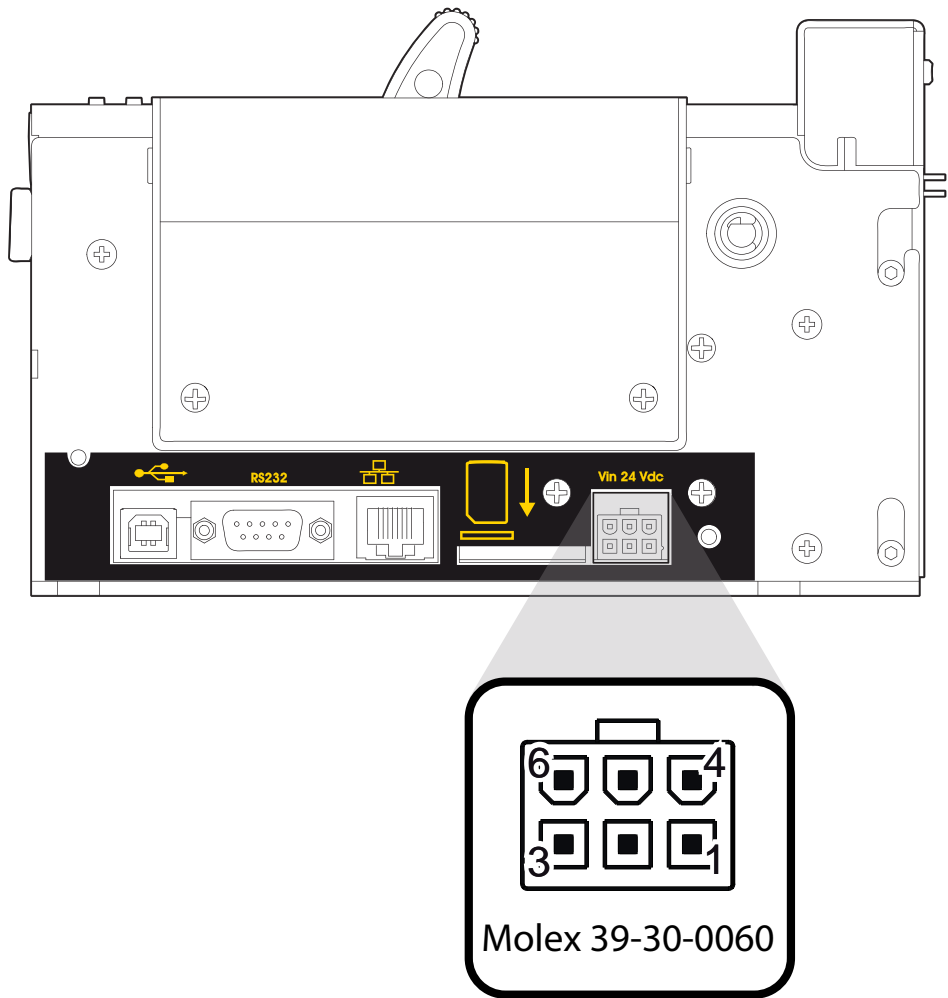
(Tab. 1.1)

STATUS LED	COLOUR	DESCRIPTION
	GREEN	Printer ON : no error
	GREEN	Communication status
		Nr. flashingsDescription
		1Receive data
		2Reception errors (parity, frame error, overrun error)
		3Command not recognized
	4Command reception time out	
	YELLOW	Recovering error
		Nr. flashingsDescription
		2Heading over temperature
		3Paper end
		4Paper jam
		5Power supply voltage incorrect
	6Cover open	
	RED	Unrecovering error
		Nr. flashingsDescription
		2FPGA error
		3RAM error
		4EEPROM error
		5Cutter error
6Cutter cover open		

Blank page

2 INSTALLATION AND USE

2.1 POWER SUPPLY



(Fig.2.1)

The printer is equipped with an external power supply outlet (see fig.2.1). The connector pin configuration is as follows :

Model no. type:                      Header :                      Molex 39-30-0060 (vertical)  
Housing:                              Molex 39-01-2065

PIN	SIGNAL
1	+24V
2	+24V
3	+24V
4	GND
5	GND
6	GND

(Tab.2.1)

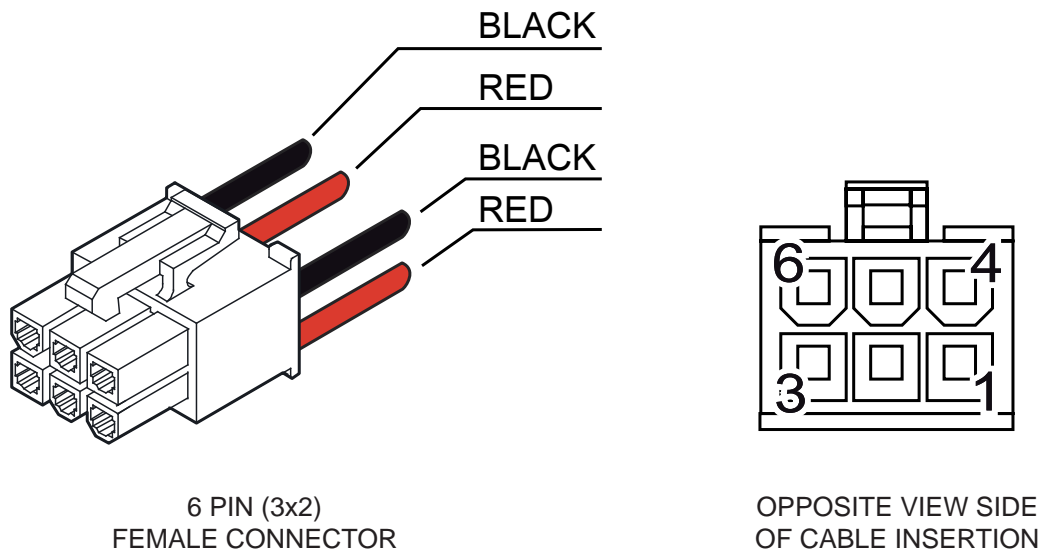


**WARNING:**  
Respect power supply polarity.

2. INSTALLATION AND USE

This picture shows the power supply cable included in the printer packaging :

(Fig.2.2)



The connector pin configuration of this cable is as follows:

(Tab.2.2)

Female connector	Cable colour	Signal
Pin 1	Red	+24V
Pin 2	Not connected	+24V
Pin 3	Red	+24V
Pin 4	Black	GND
Pin 5	Not connected	GND
Pin 6	Black	GND



**NOTE:** The red cable is for +24 Vdc.  
The black cable is for signal ground.

## 2.2 SELF-TEST

During power-up, if the LF LINE FEED key is held down, the printer enters the autotest routine and prints out the Setup report (see fig.2.3). The printer will remain in standby in Hexadecimal dump mode (see par.2.4) until another key is pressed or characters are received through the printer communication port.

PRINTER SETTINGS	
PRINTER TYPE.....	KPM300 VP
Barcode Reader.....	Not Present
RFID Module.....	Not Present
Paper Guide Type.....	6 sensors
PRINTING HEAD TYPE .....	SHEC T80
ETHERNET TYPE.....	10Base-T
PROGRAM MEMORY TEST.....	OK
DYNAMIC RAM TEST.....	OK
FPGA TEST.....	OK
EEPROM TEST.....	OK
CUTTER TEST.....	OK
HEAD VOLTAGE [ V ] =	24.29
HEAD TEMPERATURE [°C] =	30
POWER ON COUNTER =	1843
PAPER PRINTED [cm] =	76930
CUT COUNTER =	5507
DATE - TIME =	01/01/08 12:00
Printer Emulation .....	<b>SVELTA</b>
RS232 Baud Rate <sup>(1)</sup> .....	<b>115200 bps</b>
RS232 Data Length <sup>(1)</sup> .....	<b>8 bits/chr</b>
RS232 Parity <sup>(1)</sup> .....	<b>None</b>
RS232 Handshaking <sup>(1)</sup> .....	<b>Xon/Xoff</b>
Busy Condition <sup>(2)</sup> .....	<b>RxFull</b>
USB Address Number <sup>(3)</sup> .....	<b>7</b>
Print Mode .....	<b>Normal</b>
Autofeed <sup>(4)</sup> .....	<b>CR disabled</b>
Chars / inch <sup>(4)</sup> .....	<b>A=15 B=20 cpi</b>
Speed / Quality .....	<b>Normal</b>
Paper Width.....	<b>82 mm</b>
Paper Threshold .....	<b>60%</b>
Notch Position .....	<b>Low Center</b>
Notch Threshold <sup>(5)</sup> .....	<b>50%</b>
Notch Distance [mm] <sup>(5)</sup> .....	<b>+20.0</b>
Ticket Locking <sup>(5)</sup> .....	<b>Disabled</b>
PaperEnd Buffer Clear .....	<b>Disabled</b>
Barcode Reader Type.....	<b>None</b>
Print Density.....	<b>0%</b>
[LF] enter Printer Setup	
[FF] enter Ethernet Setup	
[S1] enter Clock Setup	
[S2] skip Setup	

(Fig.2.3)

## 2. INSTALLATION AND USE

---



### NOTE:

- (1) : Parameter valid only with serial interface.
- (2) : Parameter valid only with serial interface; using this parameter, it is possible to select whether the Busy signal is activated when the printer is both in Off Line status and the buffer is full, or only if the reception buffer is full.
- (3) : This parameter is used to identify univocally the USB printer by a numerical address code, if on the PC are connected two printers that are the same models for example two USB printers.
- (4) : This parameter is displayed if the printer emulation is set to ESC/POS™.
- (5) : If the "Notch Position" parameter is set to "Disabled" this parameter doesn't appear in the "Printer Setup".

Printer operating status is indicated in the configuration print-out in which, next to the name of the components displayed (see fig.2.3), the following information is given:

<b>INTERFACE</b>	is given the interface present (RS232).
<b>PROGRAM MEMORY TEST</b>	the message OK appears if functioning and NOT OK if faulty.
<b>DYNAMIC RAM TEST</b>	the message OK appears if functioning and NOT OK if faulty.
<b>FPGA TEST</b>	the message OK appears if functioning and NOT OK if faulty.
<b>EEPROM TEST</b>	the message OK appears if functioning and NOT OK if faulty.
<b>CUTTER TEST</b>	the message OK appears if functioning and NOT OK if faulty.
<b>HEAD VOLTAGE</b>	is given the voltage of the head.
<b>HEAD TEMPERATURE</b>	is given the temperature of the head.
<b>POWER ON COUNTER</b>	is given the number of power-ups made.
<b>PAPER PRINTED</b>	is given the number of centimetres of paper printed.
<b>CUT COUNTER</b>	is given the number of cuts made.

## 2.3 CONFIGURATION

KPM300 VERIPRINT® permits the configuration of default parameters divided into two groups:

- parameters for Ethernet setup;
- parameters for printer setup.

Both the groups of parameters are configurable in three different ways:

1. by entering the Setup Mode (see par.2.3.1 and par.2.3.2);
2. by entering the "Printer Setup" page and the "Ethernet Setup" page of the Embedded Web Server (see par.D.2.3);
3. by editing the "Setup.ini" file from Mass Storage (see par.D.5.2) or by FTP Server connection (see par.D.5.3).

In the Setup Mode, it's possible to configure both the groups or skip one of them following the instructions printed on the paper for the FORM FEED key and LINE FEED key functionality.

### 2.3.1 Ethernet setup

After printing the Setup report with printer's parameters (fig.2.3), press FF FORM FEED key to enter the ETHERNET parameters (see fig.2.4).

The Ethernet configurable parameters are:

- **DHCP Client:** Disabled<sup>D</sup>, Enabled.
- **FTP Server:** Disabled<sup>D</sup>, Enabled
- **IP Address:** printer IP network address; the network administrator assigns it.
- **Subnet Mask:** this parameter identifies the local network address.
- **Default gateway:** this parameter identifies the Gateway IP address used to send applications to the external network.
- **Mac address:** this is the number, provided by the constructor, that identifies the printer; this number is univocal. This parameter can't be modified by set up.



#### General notes:

The parameters marked with the symbol <sup>D</sup> are the default values.  
Settings remain active even after the printer has been turned off.

```

Notch Threshold (S).....: 50%
Notch Distance [mm] (S).....: +20.0
PaperEnd Buffer Clear .....: Disabled
Print Density .....: 0%

[LF]  enter Printer Setup
[FF]  enter Ethernet Setup
[S1]  enter Clock Setup
[S2]  skip Setup


DHCP Client.....: Disabled
FTP Server .....: Enabled


IP Address.....: 192. 168. 10. 37
Subnet Mask .....: 255. 255. 240. 0
Default Gateway.....: 192. 168. 1. 23


MAC Address .....: 00-0E-E2-67-07-04


For advanced printer setup please connect
to the site  http://192.168.10.37


DHCP Client.....: Disabled

```

(Fig.2.4)



### 2.3.2 Printer setup

This printer permits the configuration of following default parameters:

- **Printer Emulation:** SVELTA<sup>D</sup>, ESC/POS™.
- **RS232 Baud Rate :** 115200<sup>D</sup>, 57600, 38400, 19200, 9600, 4800, 2400, 1200.
- **RS232 Data length :** 7, 8<sup>D</sup> bits/car.
- **RS232 Parity :** None<sup>D</sup>, even, odd.
- **RS232 Handshaking :** XON/XOFF<sup>D</sup>, Hardware.
- **Busy condition :** RXFull<sup>D</sup>, OffLine/RXFull.
- **USB Address Number :** 0<sup>D</sup>, 1, 2, 3, 4, 5, 6, 7, 8, 9.
- **Print mode:** Normal<sup>D</sup>, Reverse.
- **Autofeed:** CR disabled<sup>D</sup>, CR enabled.
- **Chars/Inch:** A=11 B=15 cpi, A=15 B=20 cpi<sup>D</sup>.
- **Speed/Quality :** Normal, High quality, High Speed<sup>D</sup>.
- **Paper width :** 54mm, 56mm, 58mm, 60mm, 62mm, 64mm, 66mm<sup>D</sup>, 68mm, 70mm, 72mm, 74mm, 76mm, 78mm, 80mm, 82mm.
- **Paper Threshold<sup>(6)</sup> :** 30%, 40%, 50%, 60%<sup>D</sup>, 70%, 80%, 90%.
- **Notch Position<sup>(7)</sup> :** Disabled<sup>D</sup>, Low Center, Up Center, Left Side, Right Side, Left Center, Right Center, Tr.Center.
- **Notch Threshold<sup>(8)</sup> :** 30%, 40%<sup>D</sup>, 50%, 60%, 70%, 80%, 90%.
- **Notch Distance Sign<sup>(5)</sup> :** +<sup>D</sup>, -.
- **Notch Distance [mm x 10]<sup>(5)(9)</sup> :** 0<sup>D</sup>, 1, 2, 3, 4, 5, 6, 7, 8, 9.
- **Notch Distance [mm x 1]<sup>(5)(9)</sup> :** 0<sup>D</sup>, 1, 2, 3, 4, 5, 6, 7, 8, 9.
- **Notch Distance [mm x .1]<sup>(5)(9)</sup> :** 0<sup>D</sup>, 1, 2, 3, 4, 5, 6, 7, 8, 9.
- **Ticket Locking<sup>(5)</sup> :** Disabled<sup>D</sup>, Enabled
- **PaperEnd Buffer Clear :** Disabled<sup>D</sup>, Enabled.
- **Barcode Reader Type :** None<sup>D</sup>, MR008, CX002.
- **Print Density:** -50%, -37%, -25%, -12%, 0<sup>D</sup>, +12%, +25%, +37%, +50%.



#### Note generali:

The parameters marked with the symbol <sup>D</sup> are the default values.  
Settings remain active even after the printer has been turned off.

#### NOTE:

<sup>(6)</sup> : This parameter indicates the threshold value under the sensor detect the paper.

<sup>(7)</sup> : This parameter sets which sensor is used as notch sensor. There are two sensor operating mode: reflection or transparence (see Appendix B).

<sup>(8)</sup> : This parameter is used to detect the presence of the notch. In order to better identify the optimum threshold for the paper being used, a paper characterization function is also available in the setup.

<sup>(9)</sup> :The “Notch distance” parameter represents the distance in mm from the upper margin of the ticket to the black mark on the ticket. For example, to set notch distance to 15 mm, modify the following parameters in order to obtain the desired values as indicated:

Notch Dist. [mm x 10]: 1

Notch Dist. [mm x 1]: 5

Notch Dist. [mm x .1]: 0

## 2. INSTALLATION AND USE

After printing the Setup report with printer's parameters (fig.2.3), press LF LINE FEED key to enter the Setup mode (see fig.2.6).

```
Notch Distance [mm] (B).....: +20.0
PaperEnd Buffer Clear .....: Disabled
Print Density .....: 0%

[LF]  enter Printer Setup
[FF]  enter Ethernet Setup
[S1]  enter Clock Setup
[S2]  skip Setup

[LF]  to modify parameter
[FF]  for next parameter
[S2]  exitSetup

Printer Emulation..... : ESC/POS (TM)
```

(Fig.2.6)

After pressing LF LINE FEED key, the first parameter to be modified (Printer Emulation) is printed. To modify printer's parameters follow the instructions printed on the paper for the FF FORM FEED key and LF LINE FEED key functionality.

The settings made are stored in EEPROM (nonvolatile memory).

### 2.4 HEXADECIMAL DUMP

This function is used to diagnose the characters received through the communication port; the characters are printed out both as hexadecimal codes and ASCII codes (see fig.2.7).

Once the self-test routine has finished, the printer enters Hexadecimal Dump mode. The printer remains in standby until a key is pressed or characters are received through the communication port.

For every 24 characters received, the hexadecimal and corresponding ASCII codes are printed out (if the characters are underlined, the receive buffer is full). Shown below is an example of a Hexadecimal Dump:

Press S2 key to exit from printer setup.

HEXADECIMAL DUMP																							
31	32	33	34	35	36	37	38	12345678															
39	30	31	32	33	34	35	36	90123456															
37	38	39	75	69	73	64	66	789uisdf															
68	6B	6A	73	64	68	66	68	hkjsdhfh															
73	64	66	6B	6A	68	73	64	sdfkjhsd															
66	73	64	66	6B	68	6A	77	fsdfkhjw															
65	69	6F	79	75	77	71	65	eioyuwqe															
6F	72	69	75	77	65	72	69	oriuweri															
6F	75	77	65	72	69	6F	75	ouweriou															
77	65	72	69	6F	75	77	65	weriouwe															
72	69	6F	75	77	65	72	68	riouwerh															
6B	6C	73	64	66	68	6B	73	kl sdfhks															
64	66	6B	73	64	66	68	6A	dfksdfhj															
73	64	66	6B	6A	F2	73	64	sdfkj≥sd															
66	6B	F2	6A	73	68	64	66	fk≥jshdf															
6A	6B	6C	68	jklh																			

(Fig.2.7)

## 2.5 CALENDAR CLOCK

The printer is equipped with a Real Time Clock.

During power-up, held down the LF LINE FEED key to enter in the printer configuration mode.

Pressing the S1 key to enter in the clock configuration (see fig.2.8).

Pressing the LF LINE FEED key to modify date / time; the printer will print the updated date and time.

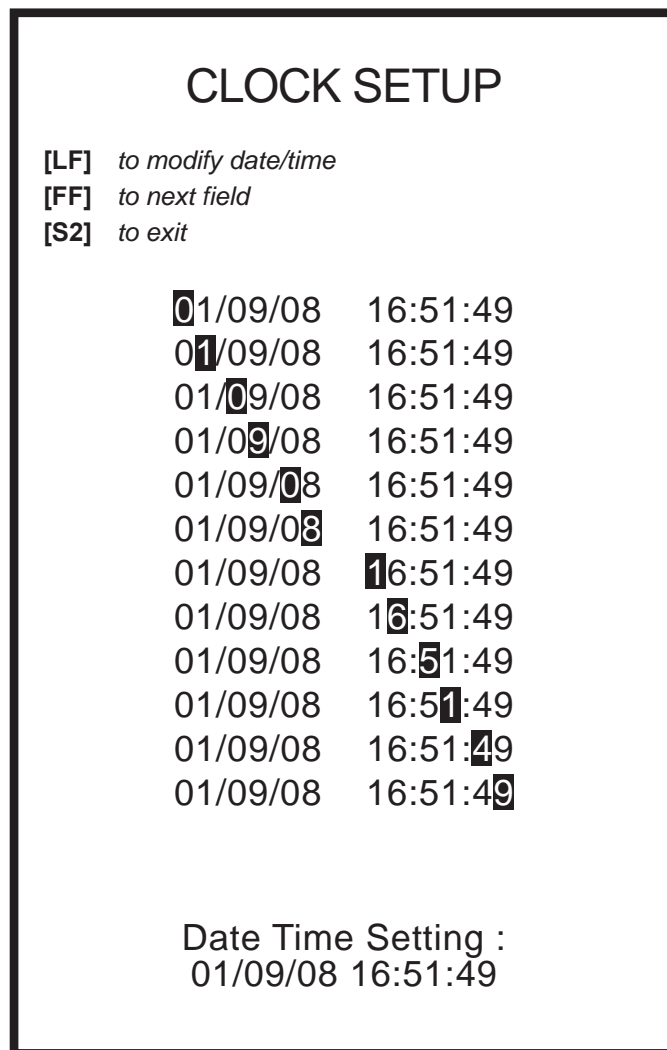
Follow the instructions printed on the paper for the key functionality.

The highlighted digit (the number is written in negative mode) indicates the digit to be modified.

Pressing LF LINE FEED key to modify the value of the highlighted digit; every single LF LINE FEED key pressure increases of 1 his value. Once the value 9 is reached the counting starts again from 0.

Pressing FF FORM FEED key to move the cursor on the next digit; if the cursor position is on the latest digit you can proceed to next parameter pressing the FF FORM FEED key again.

Pressing S2 key to exit and terminate the setting procedure.



(Fig.2.8)

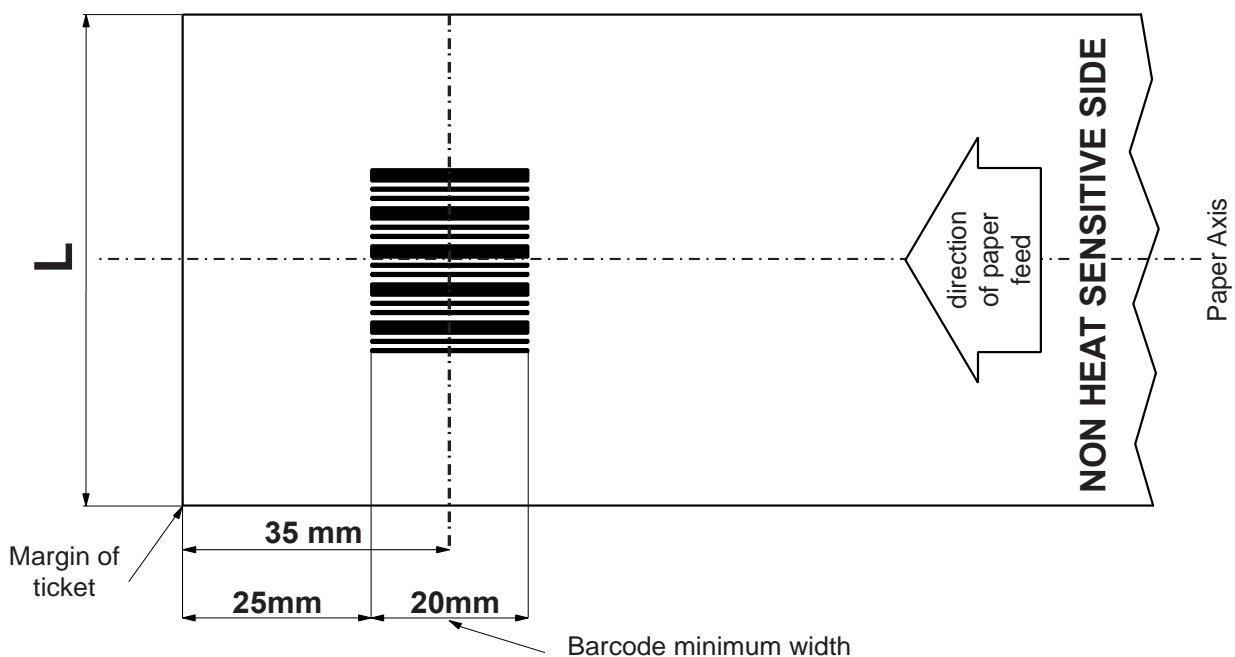
## 2. INSTALLATION AND USE

### 2.6 PAPER SPECIFICATIONS

KPM300 VERIPRINT® prints on ticket width from 54 to 82.5 mm adjustable by the user; this printer manages both paper roll, fan-fold and ticket with notch. The printer is available with optional barcode laser reader (CCD scanner) for reading pre-printed modules and optional RFID reader/writer (mifare/Icode). The following paragraphs give the specifications and dimensions for each ticket configuration.

#### 2.6.1 Specifications for ticket with barcode (for models with barcode reader)

Place the barcode on the non-heat sensitive side of the ticket, 25mm far from the margin to allow a correct reading when the ticket is aligned with the print (see fig.2.9).



(Fig.2.9)

where:

L : = represents the paper width used (54 ÷ 82.5 mm).



**NOTE:** See the table of "Technical specification" for the main barcode specifications (if the printer is equipped with the barcode reader).

### 2.6.2 Specifications for ticket with notch

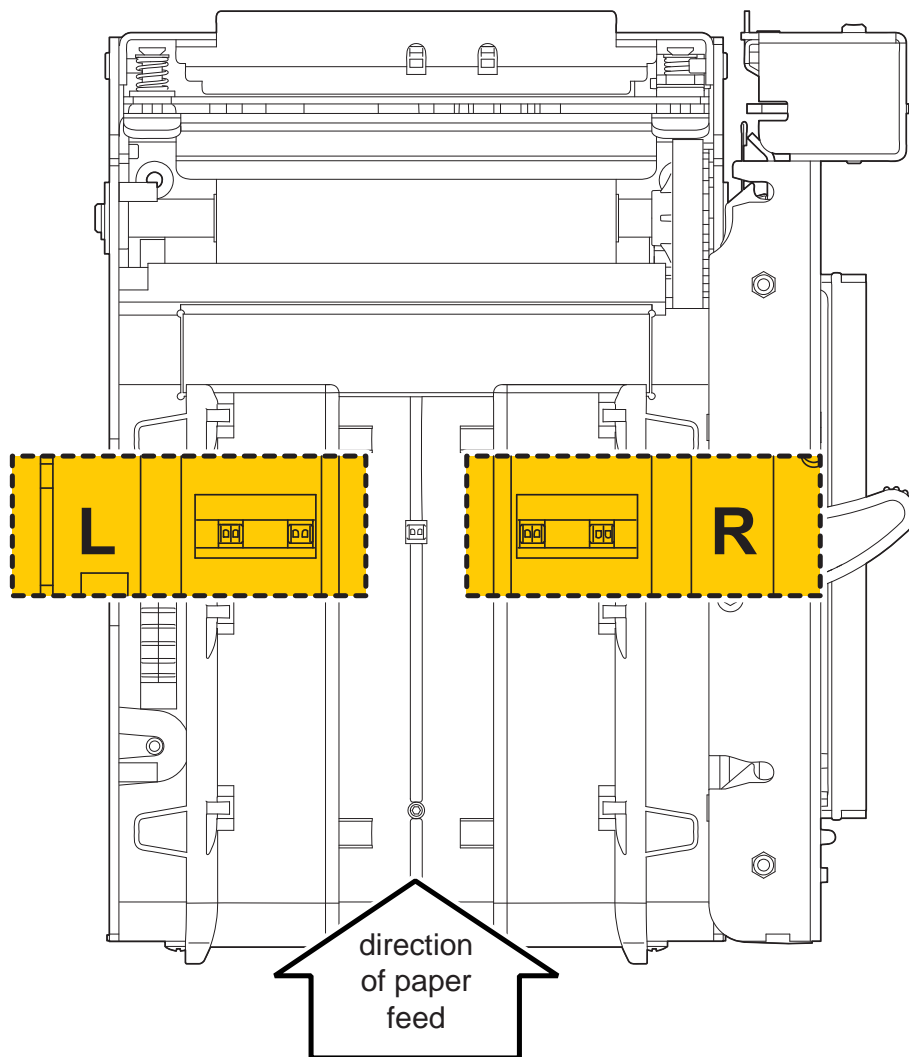
Printer is provided with 5 sensors for the notch detection as shown in fig.2.10, where:

- **L** = left lateral sensor
- **R** = right lateral sensor.

The printer manages tickets with notch; place the notch on the heat sensitive side or on the non-heat sensitive side of the ticket. "Notch Position" parameter (see printer setup) sets the positions for the notch as follows:

- Notch positioned on the heat sensitive side:  
Notch position = Up Center
- Notch positioned on the non-heat sensitive side:

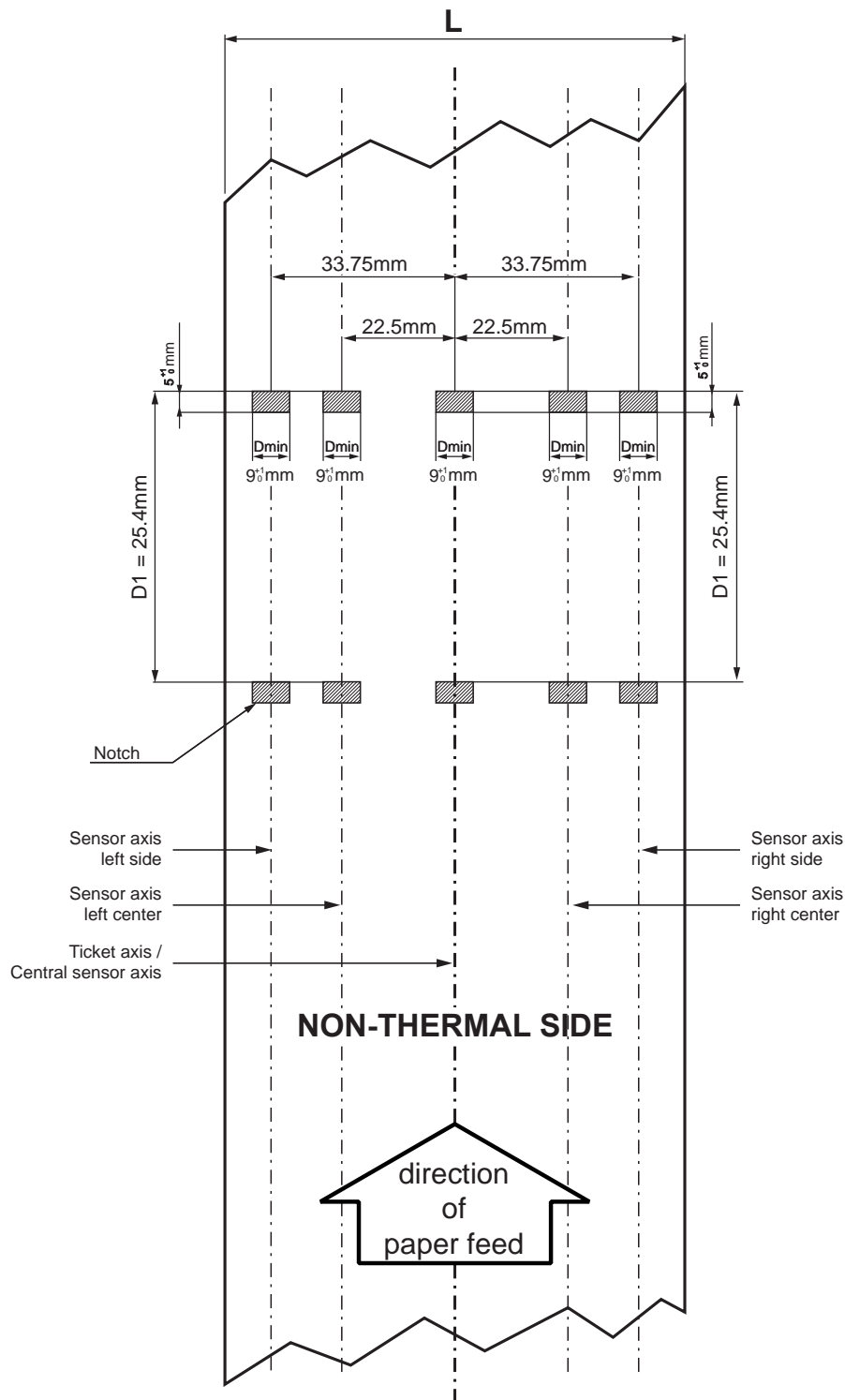
Notch position = Low Center  
 Left Side      or      Left Center  
 Right Side     or      Right Center



(Fig.2.10)

Fig. 1.11 shows an example of paper roll with notch on the non-heat sensitive side (non-printable side); lateral notch sensor is on the right side, where

- L** = represents the paper width used ( $54 \div 82.5$  mm);
- Dmin** = indicates the minimum notch dimension;
- D1** = indicates the minimum notch to notch distance.



(Fig.2.11)

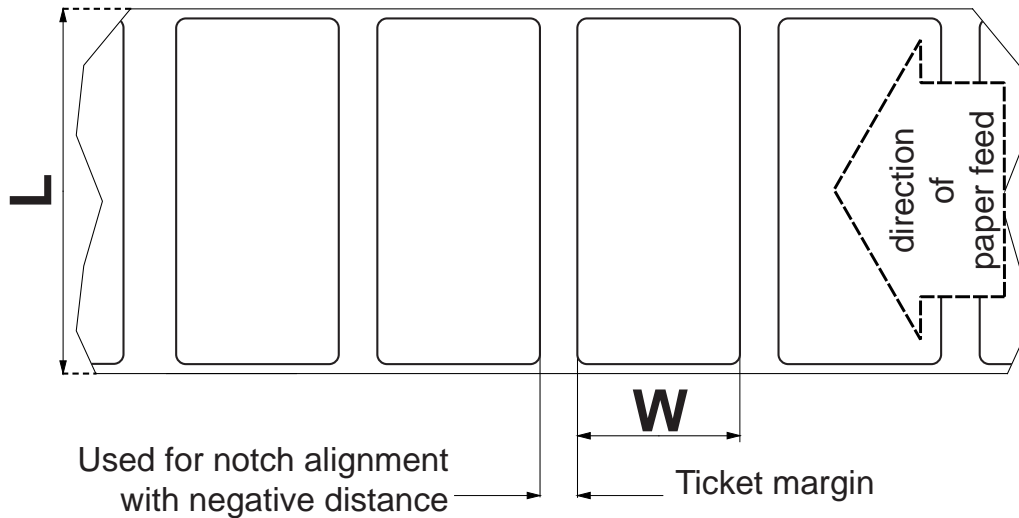


**NOTE:** If the notch was on the heat sensitive side, the image on the paper (fig.2.10) would be mirrored in regard to the paper axis.

- The printer automatically choice the sensor used to detect the paper presence according to the selected notch sensor.
- For a correct alignment, the notch distance from the margin must be between -5 and 66mm (notch sensor/print head distance).

### 2.6.3 Specifications for paper with labels

If the distance of notch position from the margin is negative, the notch is outside the printable ticket. For example the printing on paper with labels (see fig.2.12).



(Fig.2.12)

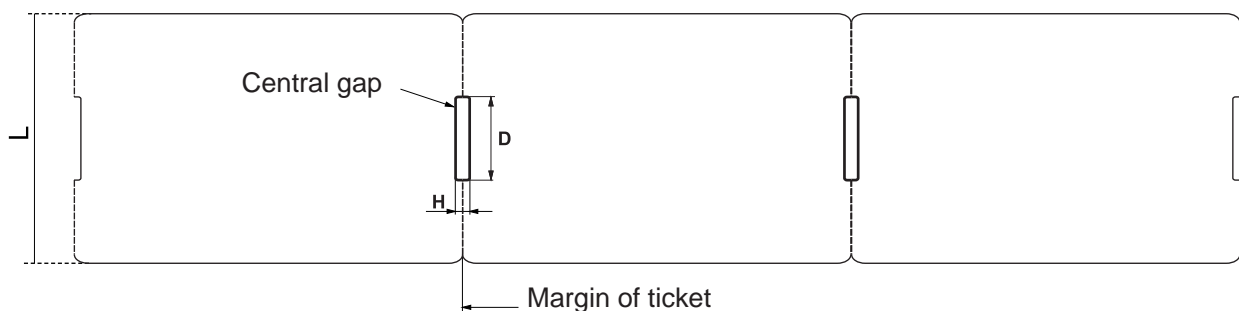
where

- L** = represents the paper width used ( $54 \div 82.5\text{mm}$ );
- W** = indicates the minimum managed length  $25.4\text{mm}$  (1").

With KPM300 VERIPRINT® is possible to print label; the minimum length is  $25.4\text{mm}$  (1").

### 2.6.4 Specifications for ticket with gap

The printer manages tickets with gap (central or lateral gap). Set the "Notch position" parameter (see printer setup) with "Transparent Center" value for print and cut the ticket. Fig.2.13 shows an example for credit card size ticket ( $84 \times 54\text{mm}$ ) with central gap.



(Fig.2.13)

where

- L** = represents the paper width used ( $54 \div 82.5\text{mm}$ );
- H** = indicates the managed minimum height (2mm)
- D** = indicates the minimum width (10mm)

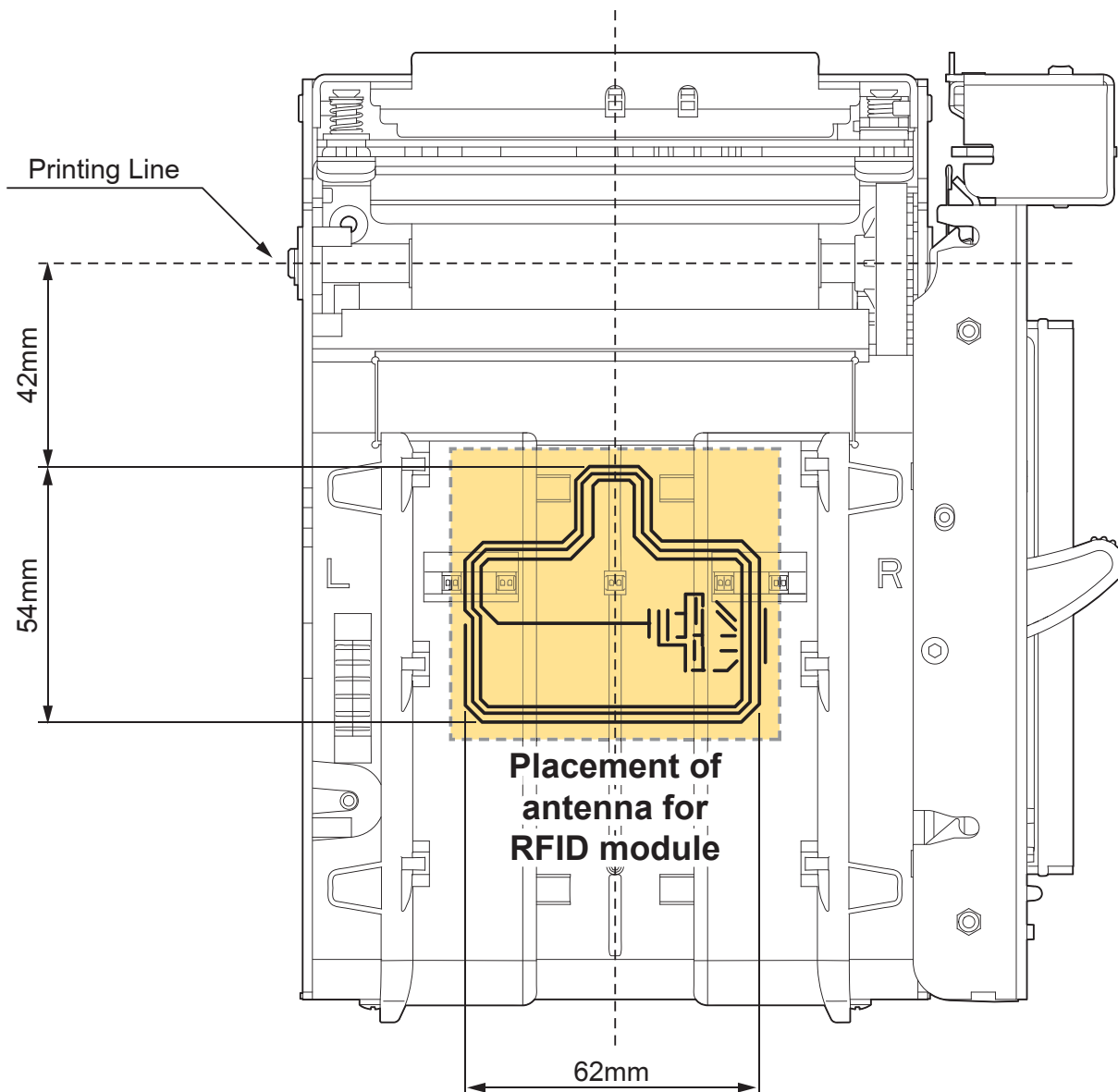
## 2. INSTALLATION AND USE

### 2.6.5 Specifications for ticket with RFID Tag (for models with RFID reader)

The printer models equipped with RFID reader, manages ticket with RFID Tag. RFID (acronym for Radio Frequency IDentification) is a technology to identify automatically items using radio waves; this system is based on wireless data capture from RFID tag using appropriate readers. The RFID tag, or transponder, is made up of:

- the microchip that stores the data (including also a unique serial number written);
- an RFID antenna.

Under the paper guide (see fig.2.14), an RFID transceiver module is mounted, provided with antenna, that allows to send and receive RF data to and from the tag. For this application the ticket dimensions are not binding but for good reading is important that the tag inside the ticket, after alignment, intersects the antenna area. The fig.2.14 shows the antenna's area and its position under the paper guide in the RFID printer model.



(Fig.2.14)



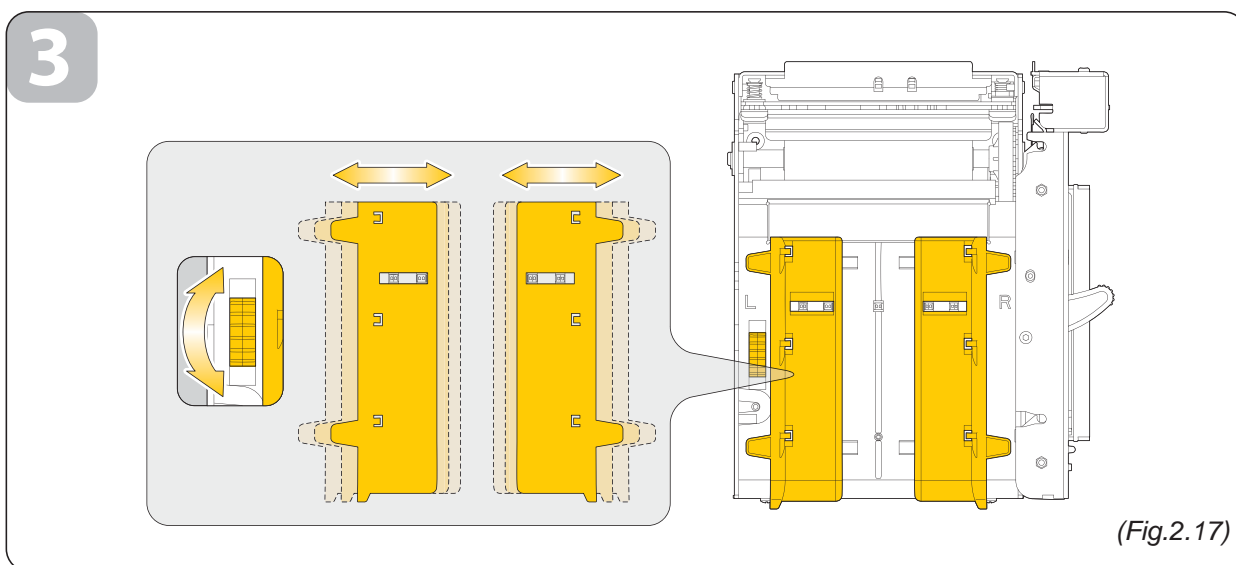
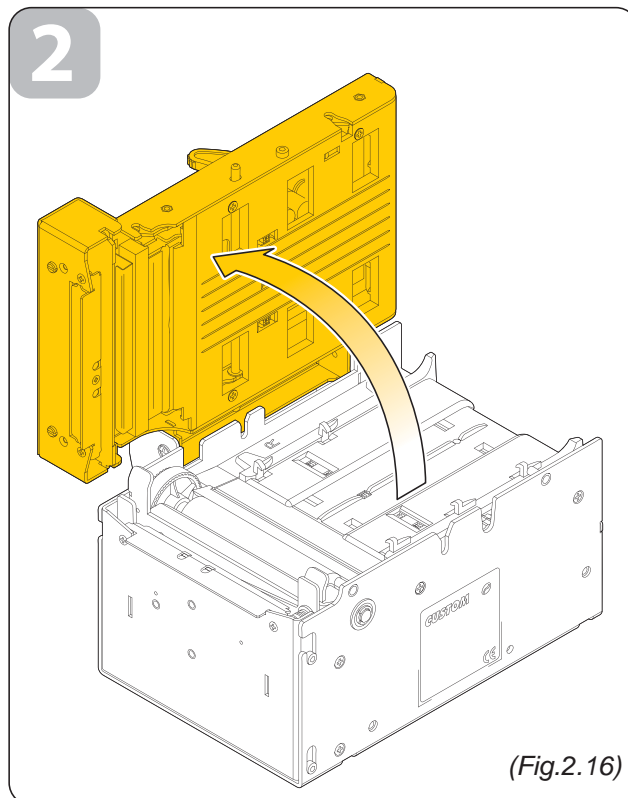
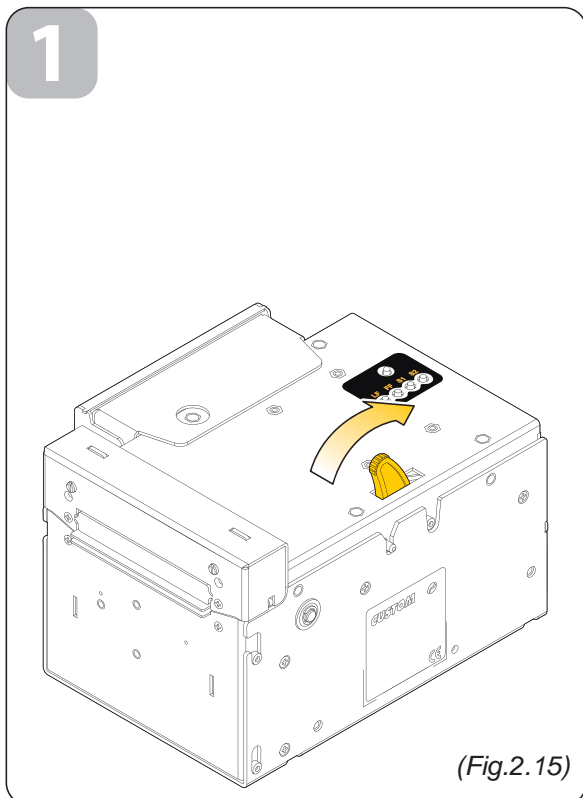
**NOTE:** Using ticket with RFID tag, the minimum managed length is a credit card size ticket (84x54 mm).

### 2.7 MAINTENANCE

#### 2.7.1 Changing the paper roll

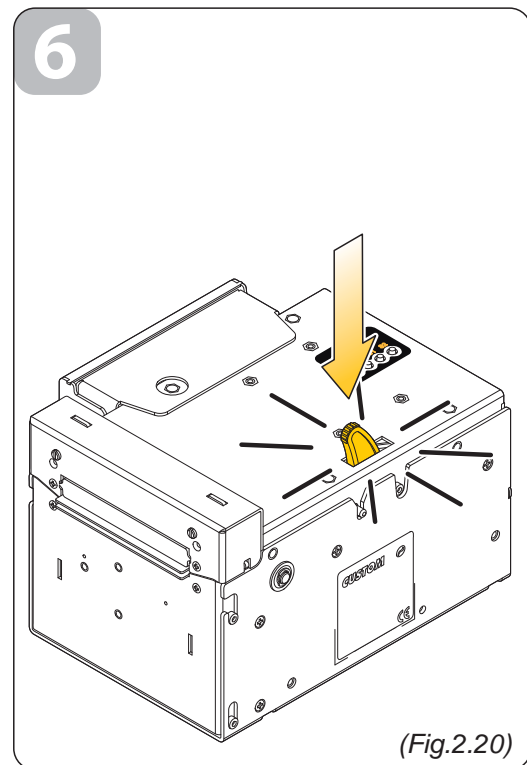
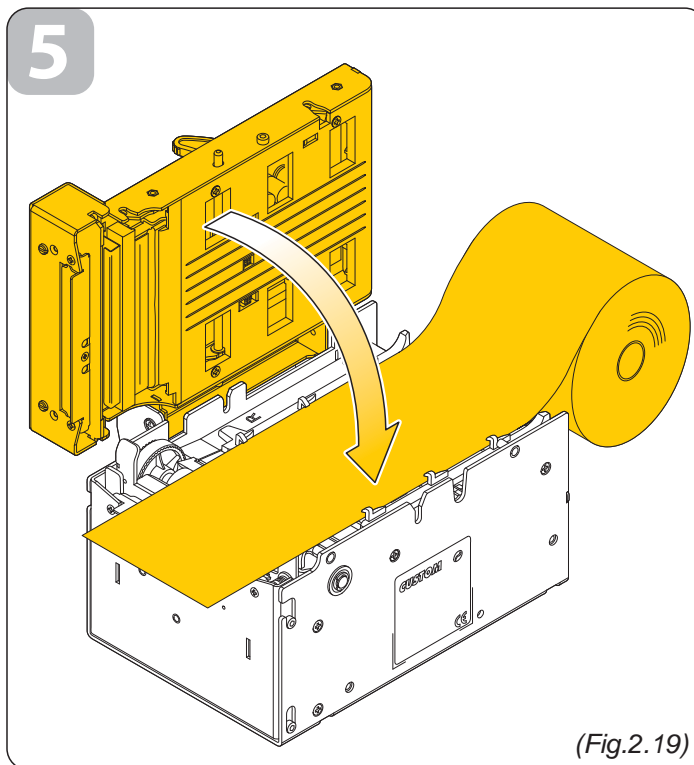
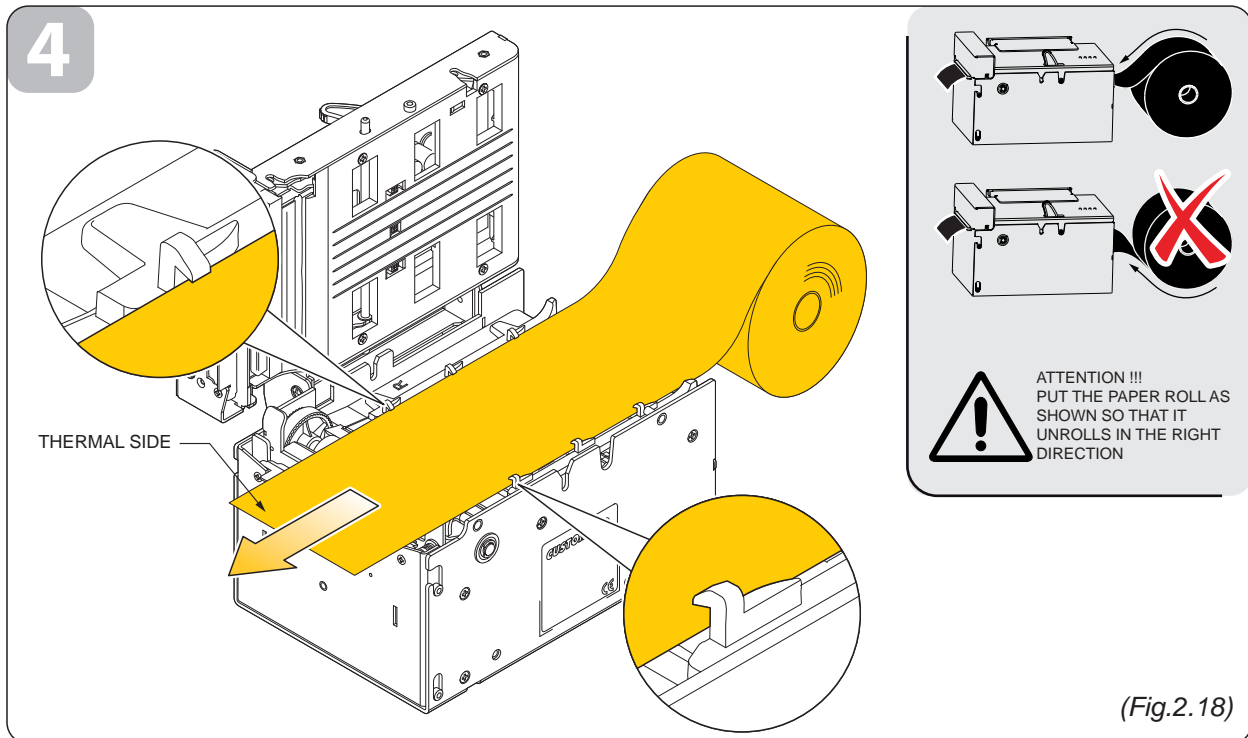
Each time you change the paper, check inside the printer. To change the paper roll proceed as follows:

- Open the printer cover as shown in fig.2.15 and fig.2.16.
- Using the wheel, as shown in fig.2.17 to regulate the width of the paper guide in according to type of paper used.



## 2. INSTALLATION AND USE

- Position the paper roll, so that it unrolls correctly, as shown in fig.2.18 and be careful that the paper must be positioned inside the hook of the paper guide; pull the paper so that it will come out a few centimetres outside of the printer.
- Lower the printer cover (see fig.2.19).
- Push on the cover to lock it (see fig.2.20) and wait for the paper to load automatically.

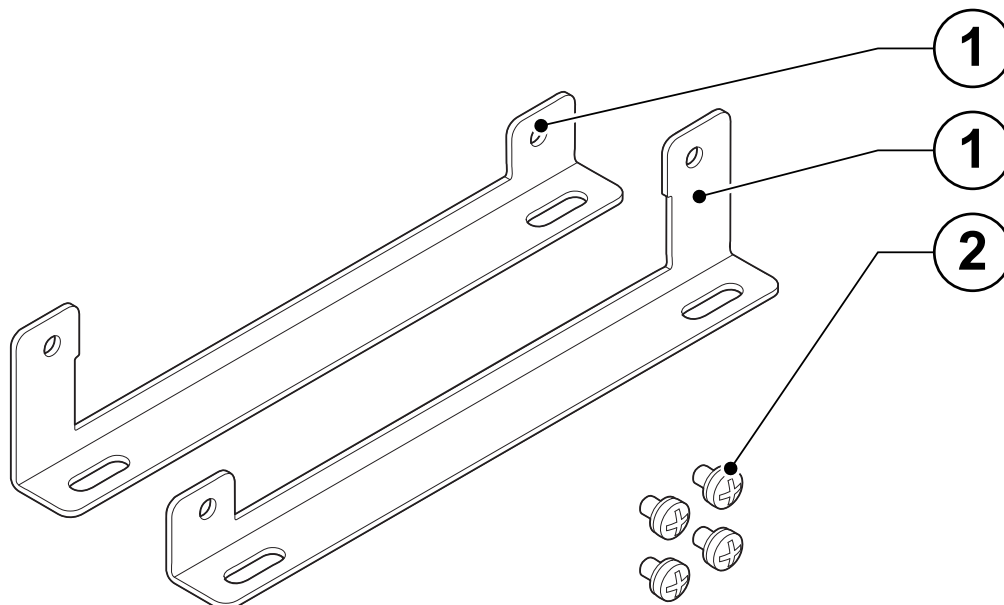


**NOTE:** The changing paper procedure is the same for all the printer models available

### 2.7.2 Mounting additional fixing brackets

The printer includes a kit for the assembly of two additional fixing brackets. The kit contains (see fig.2.21):

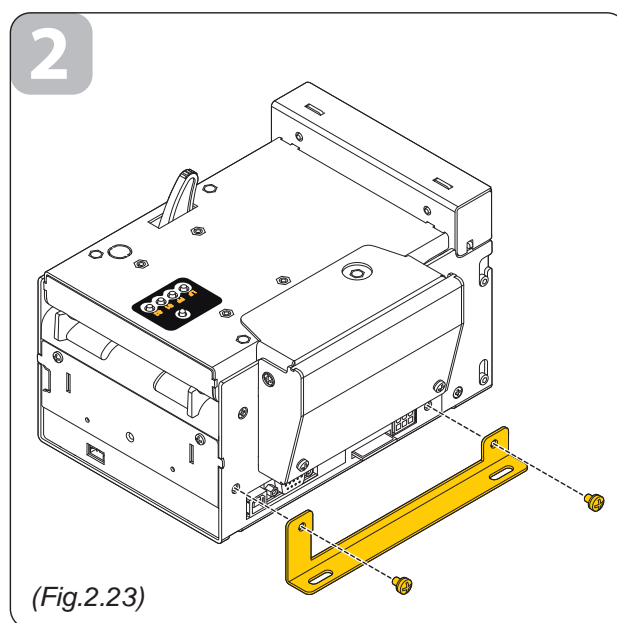
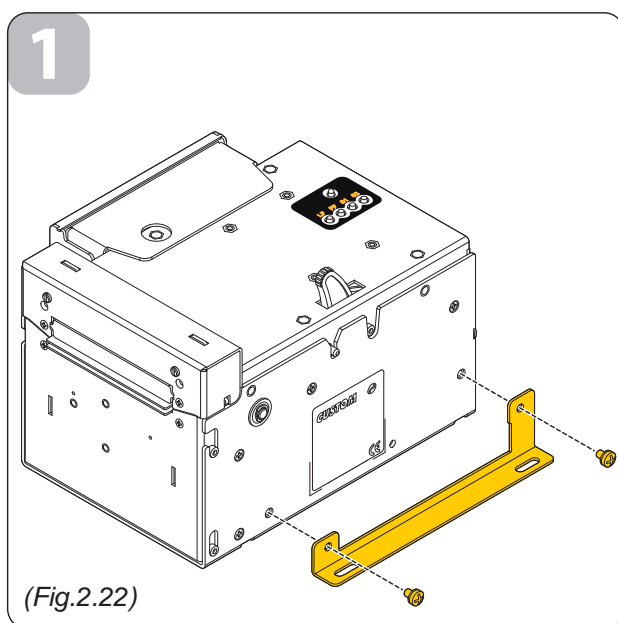
1. Two fixing brackets.
2. N.4 fixing screws.



(Fig.2.21)

#### Assembly instructions

- Fixing the two brackets to the printer as shown in the fig.2.22 and fig.2.23.

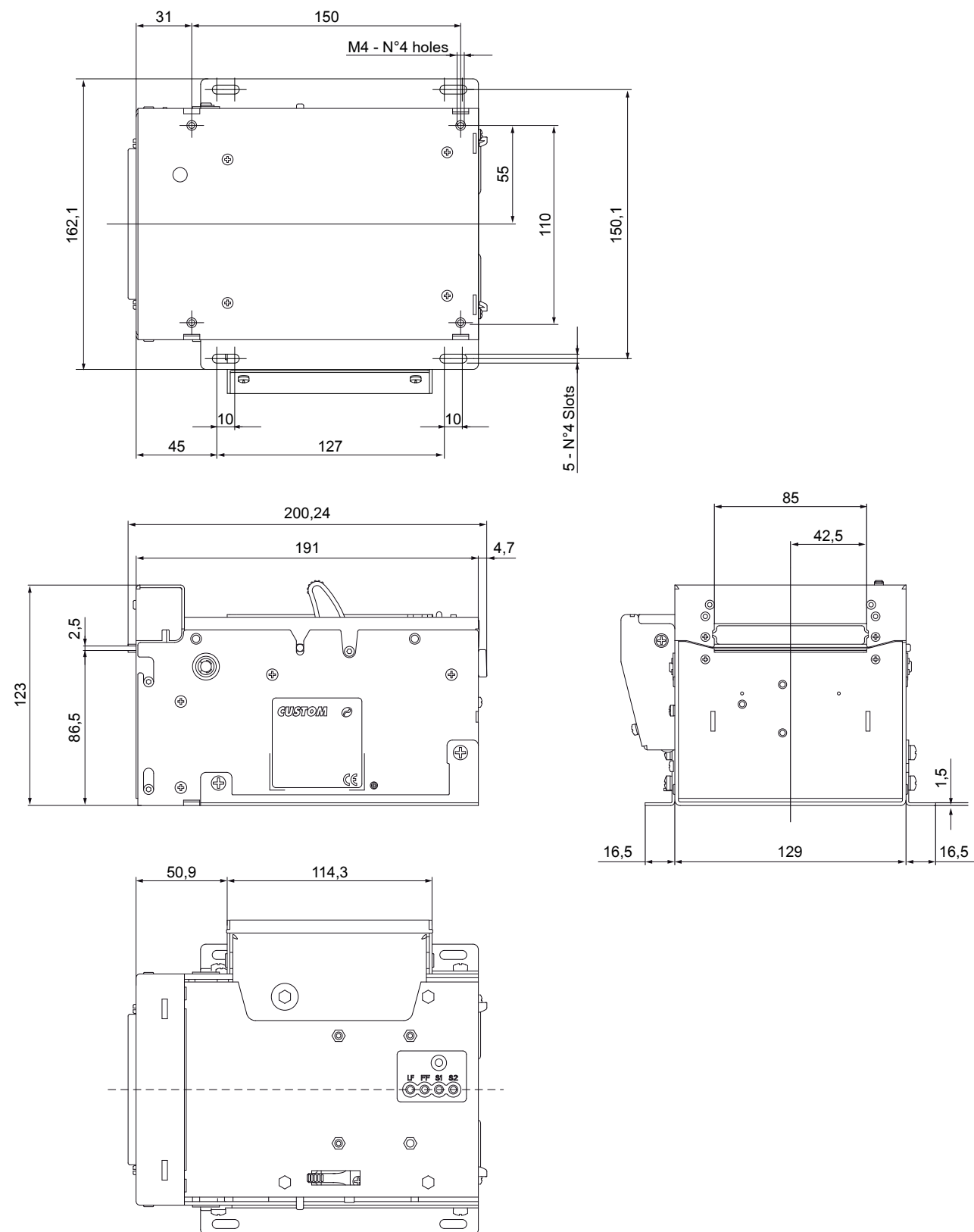


**NOTE:** The brackets fixing procedure is the same for all the printer models available

## 2. INSTALLATION AND USE

Figure 2.24 shows the printer overall dimensions with the two additional brackets.

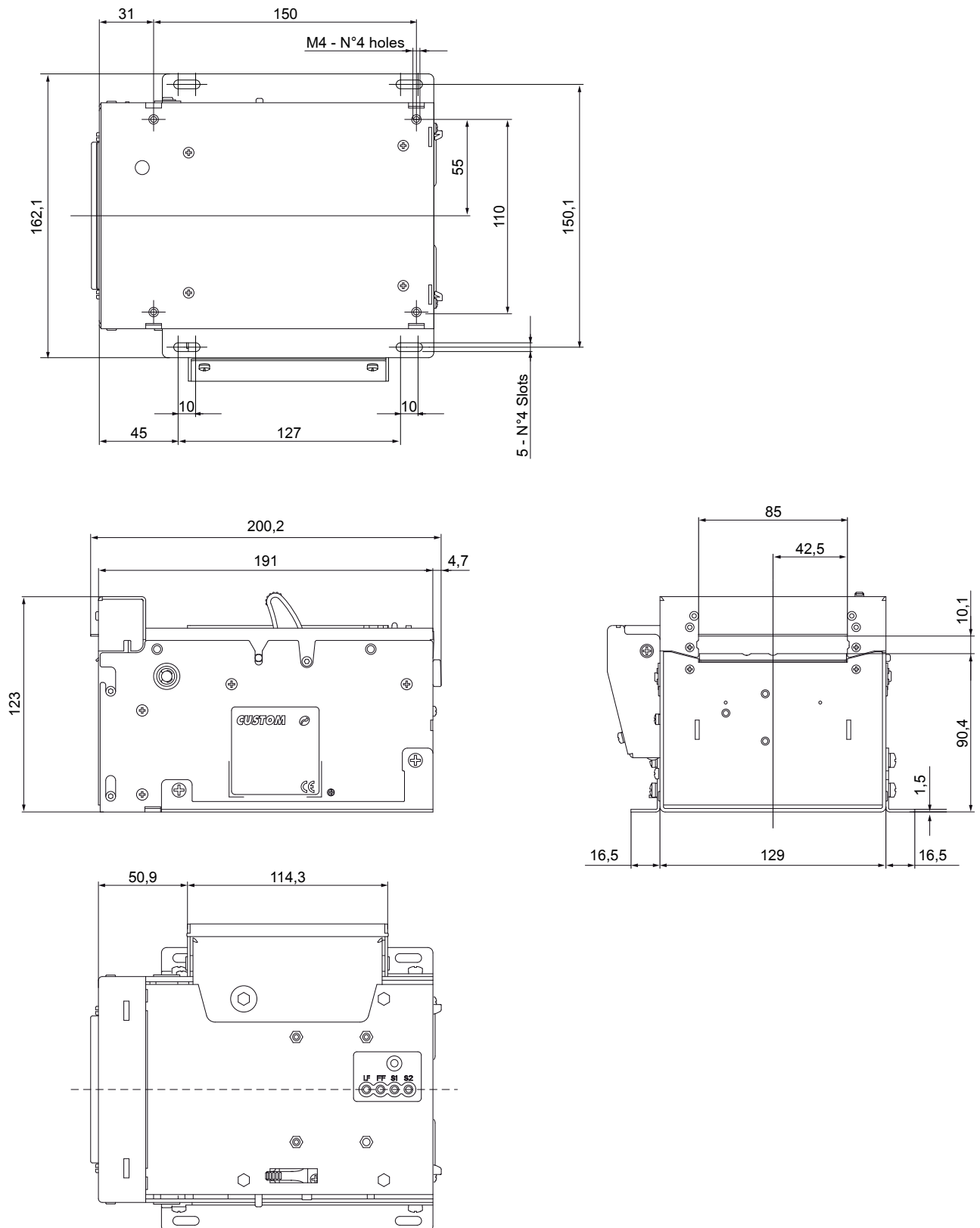
**Dimensions (in mm)**



(Fig.2.24)

Figure 2.25 shows the overall dimensions of the printer with the “CUT AND DROP” configuration and the two additional brackets.

### Dimensions (in mm)

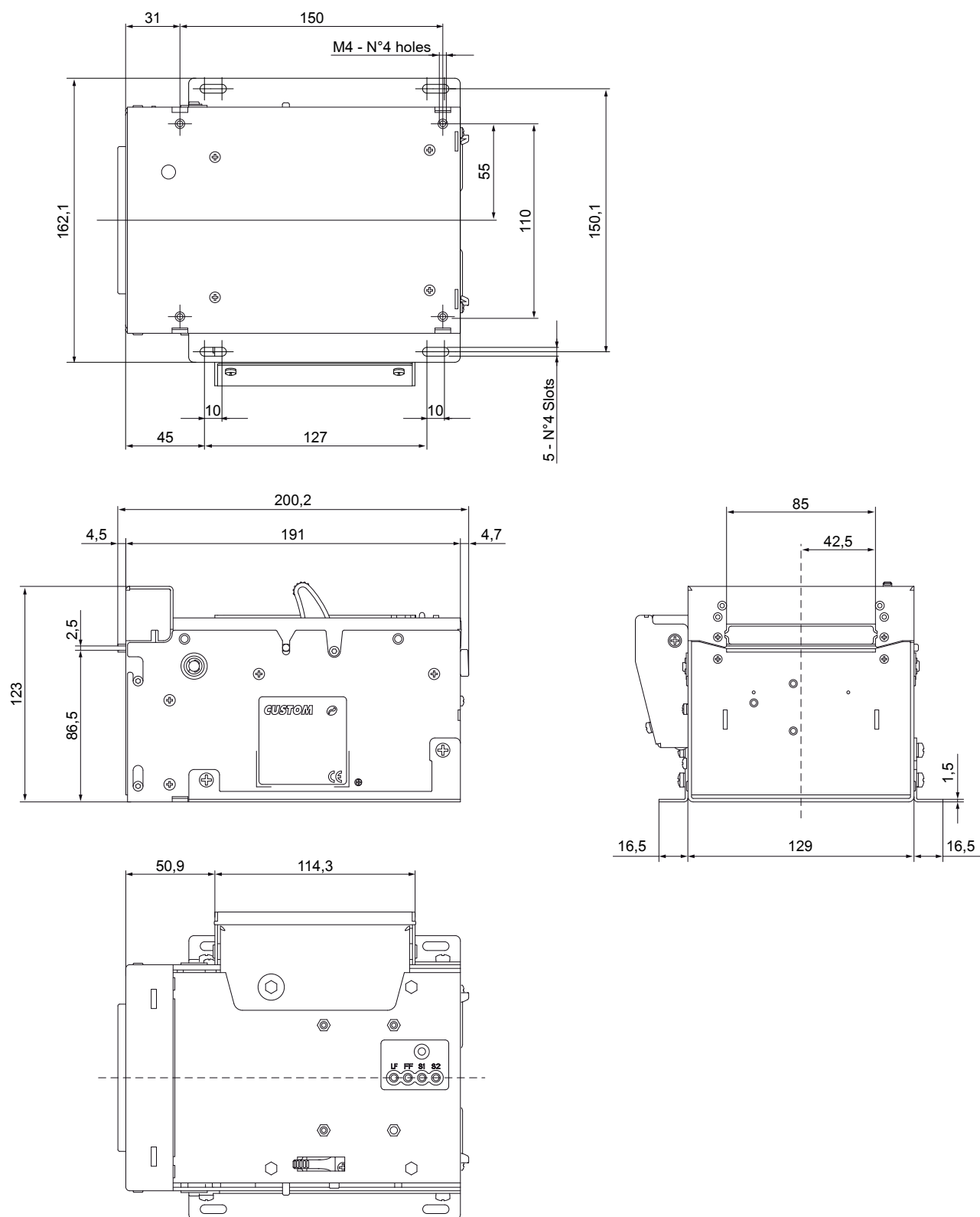


(Fig.2.25)

## 2. INSTALLATION AND USE

Figure 2.26 shows the overall dimensions of the printer with the “BUSTER” configuration and the two additional brackets.

### Dimensions (in mm)

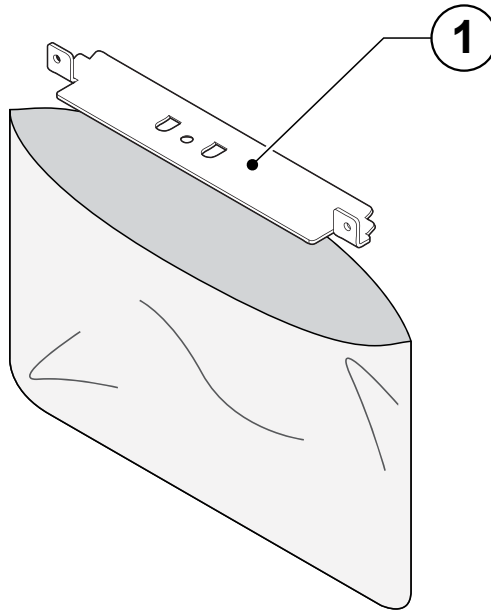


(Fig.2.26)

### 2.7.3 “BUSTER” configuration

Printer is provided with a kit for the “BUSTER” configuration. The kit contains (see fig.2.27):

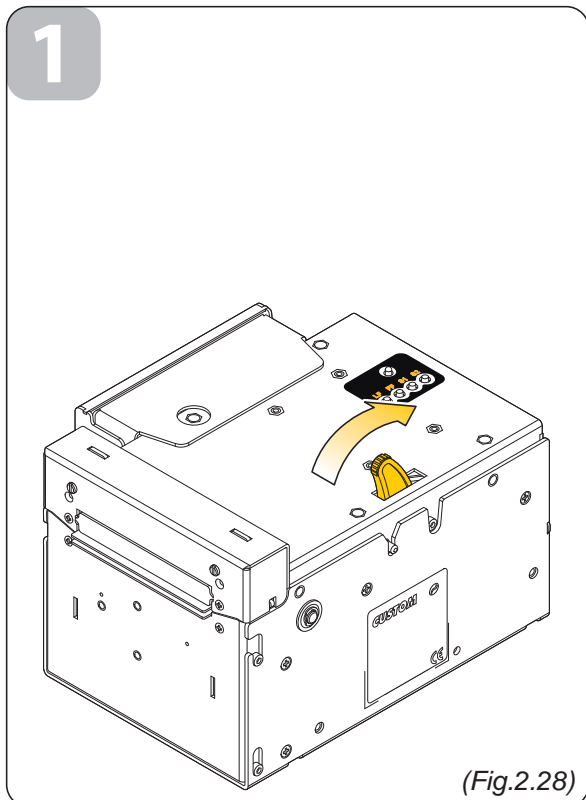
1. Upper paper outfeed mouth.



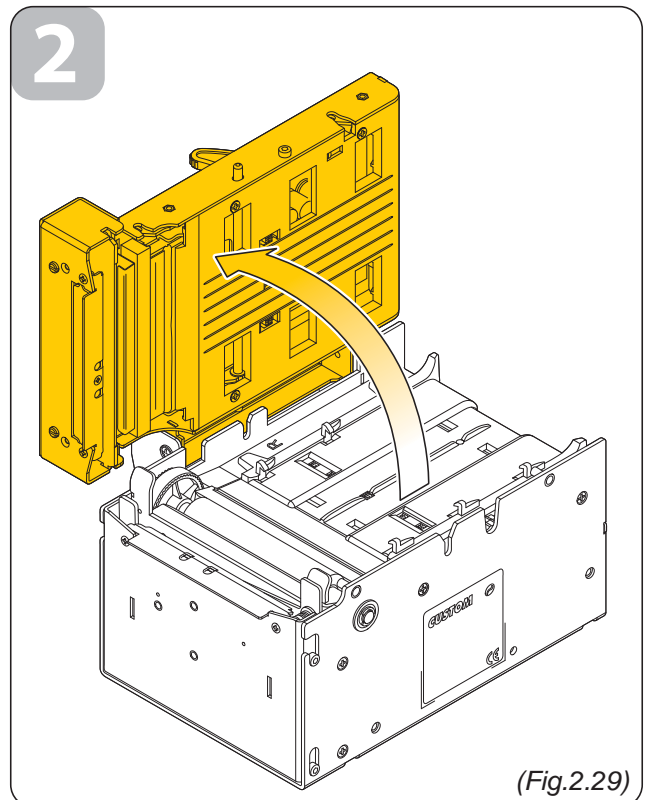
(Fig.2.27)

#### Assembly instruction

- Open the printer cover as shown in fig.2.28 and fig.2.29.



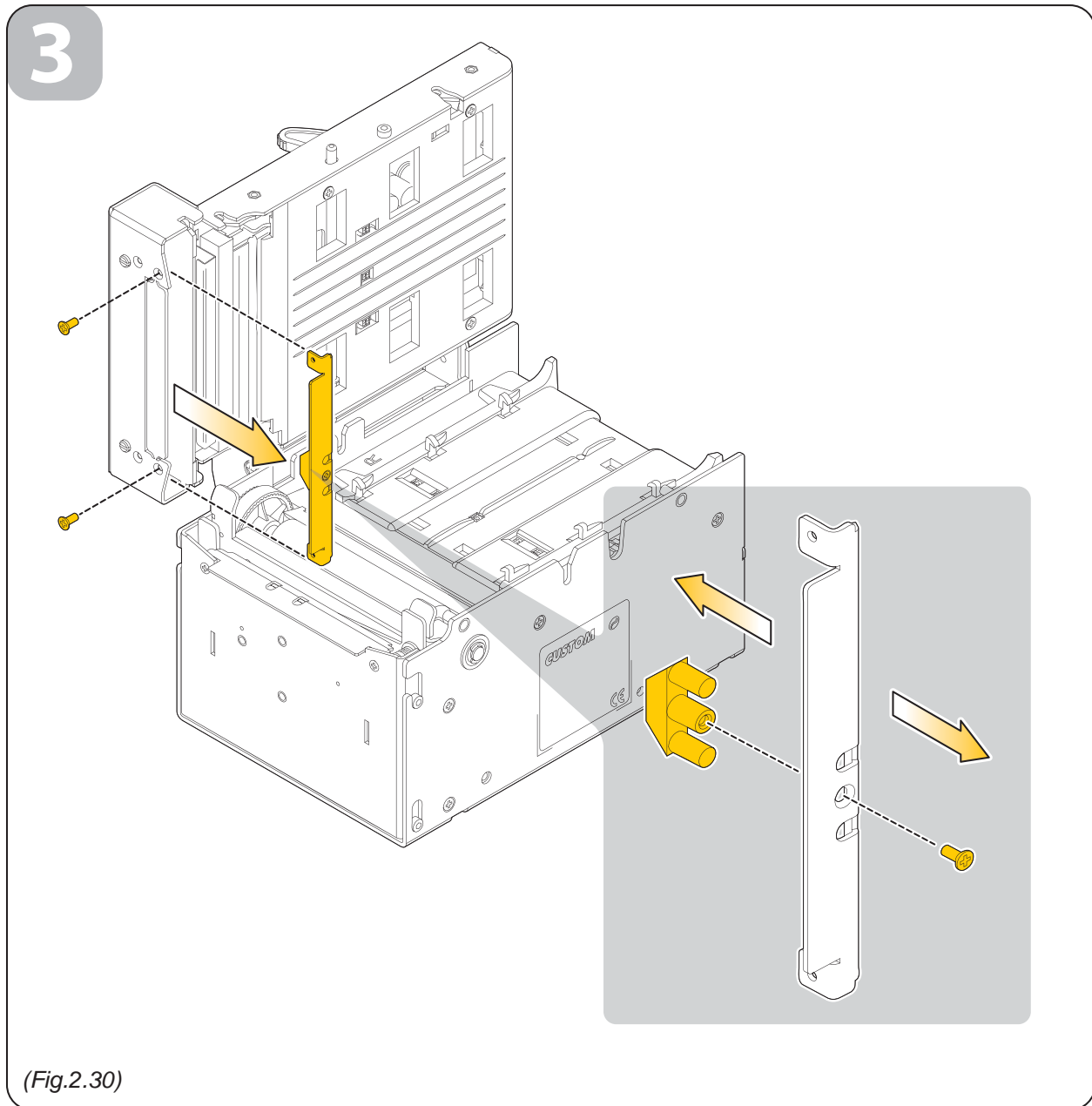
(Fig.2.28)



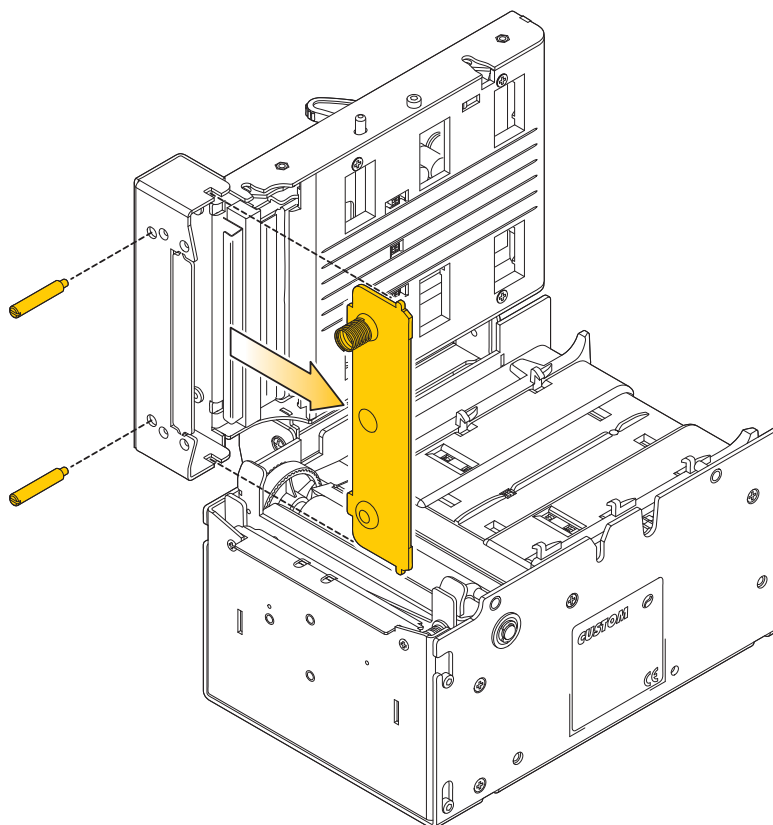
(Fig.2.29)

## 2. INSTALLATION AND USE

- Unscrew the two fixing screws and take off the upper paper mouth group of the “STANDARD” configuration (see fig.2.30).
- Unscrew the central fixing screw and divide the paper mouth of the “STANDARD” configuration from the light guide (see fig.2.30).
- Unscrew the fixing pins and take off the fixed blade and the spring as shown in fig.2.31.
- Fix the light guide with the upper paper mouth of the “BUSTER” configuration using the screw previously removed (see fig.2.32).
- Fix the upper paper mouth group for the “BUSTER” configuration using the screws previously removed (see fig.2.33).

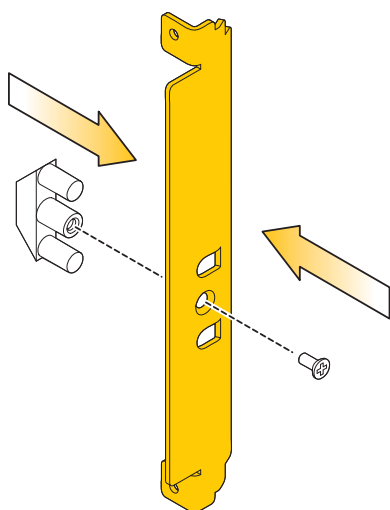


4



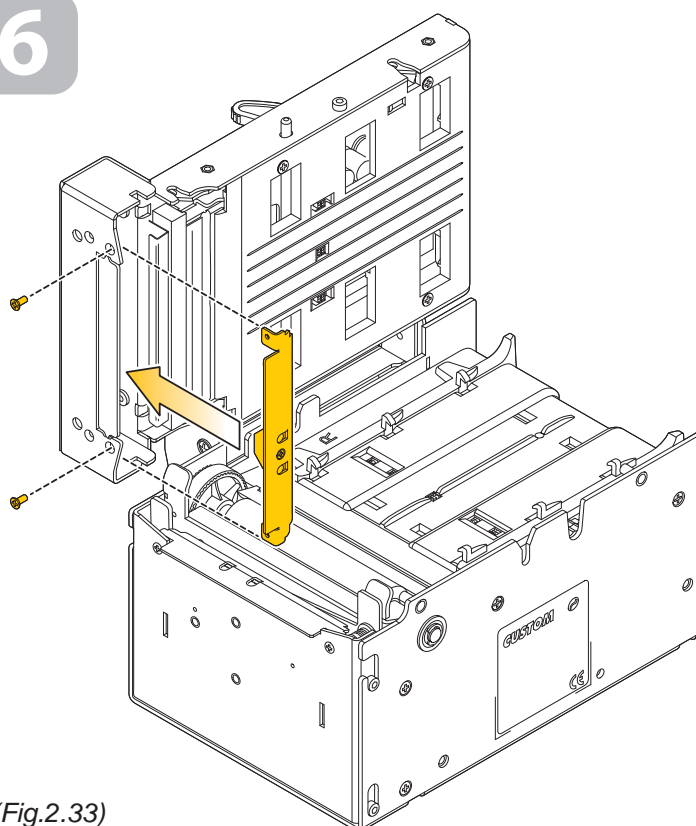
(Fig.2.31)

5



(Fig.2.32)

6



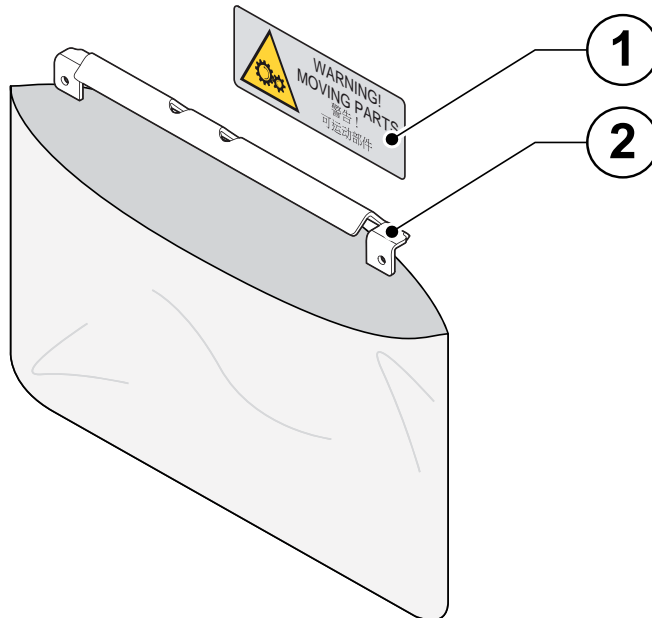
(Fig.2.33)

## 2. INSTALLATION AND USE

### 2.7.4 “CUT AND DROP” configuration

Printer is provided with a kit for the “CUT AND DROP” configuration. The kit contains (see fig.2.34):

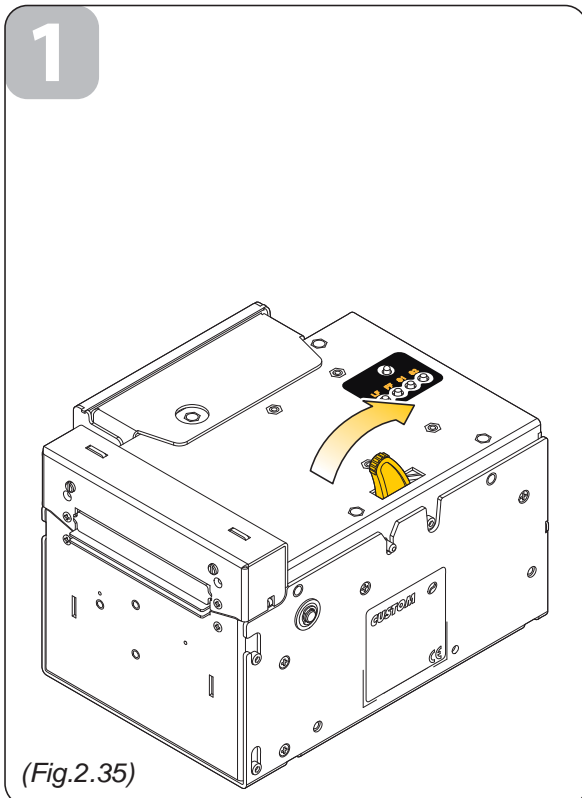
1. Label.
2. Upper paper outfeed mouth.



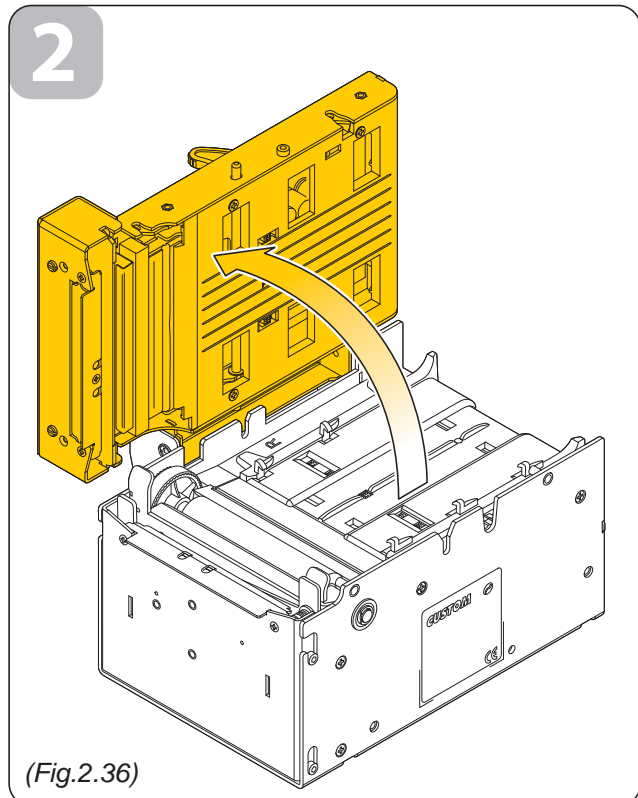
(Fig.2.34)

#### **Assembly instruction**

- Open the printer cover as shown in fig.2.35 and fig.2.36.

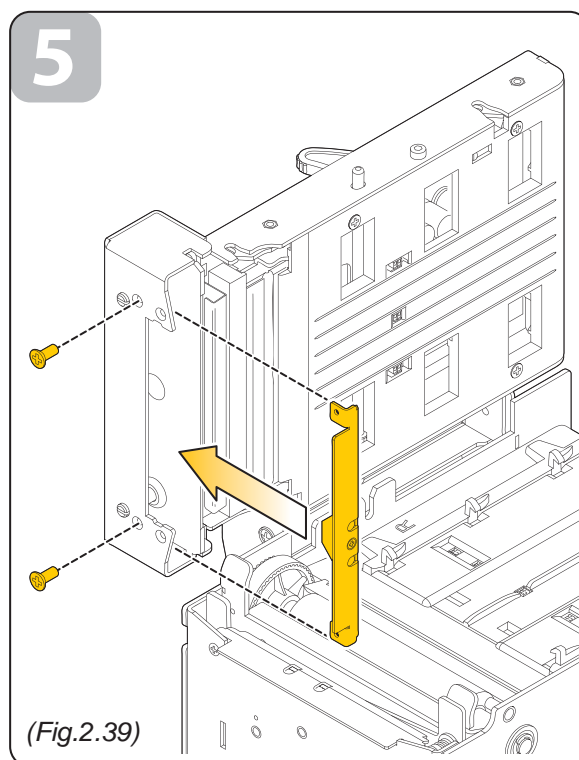
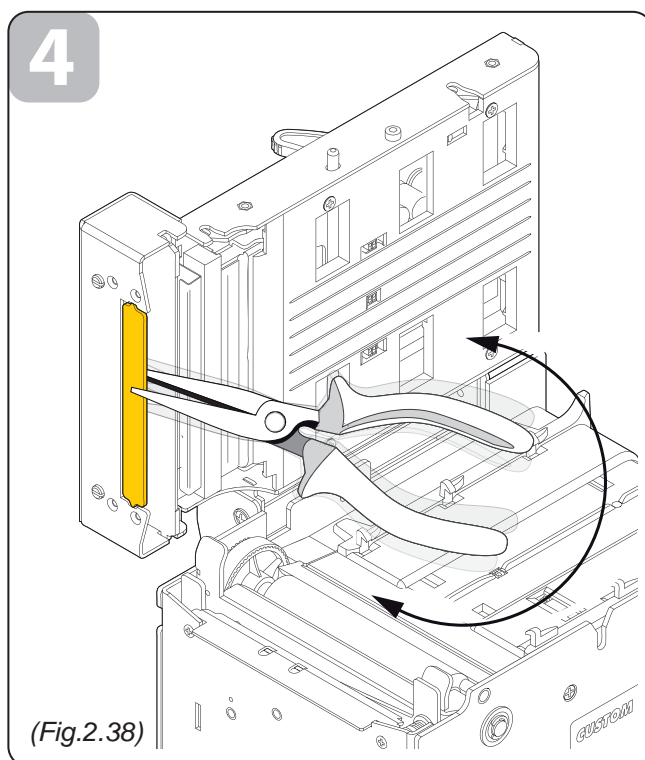
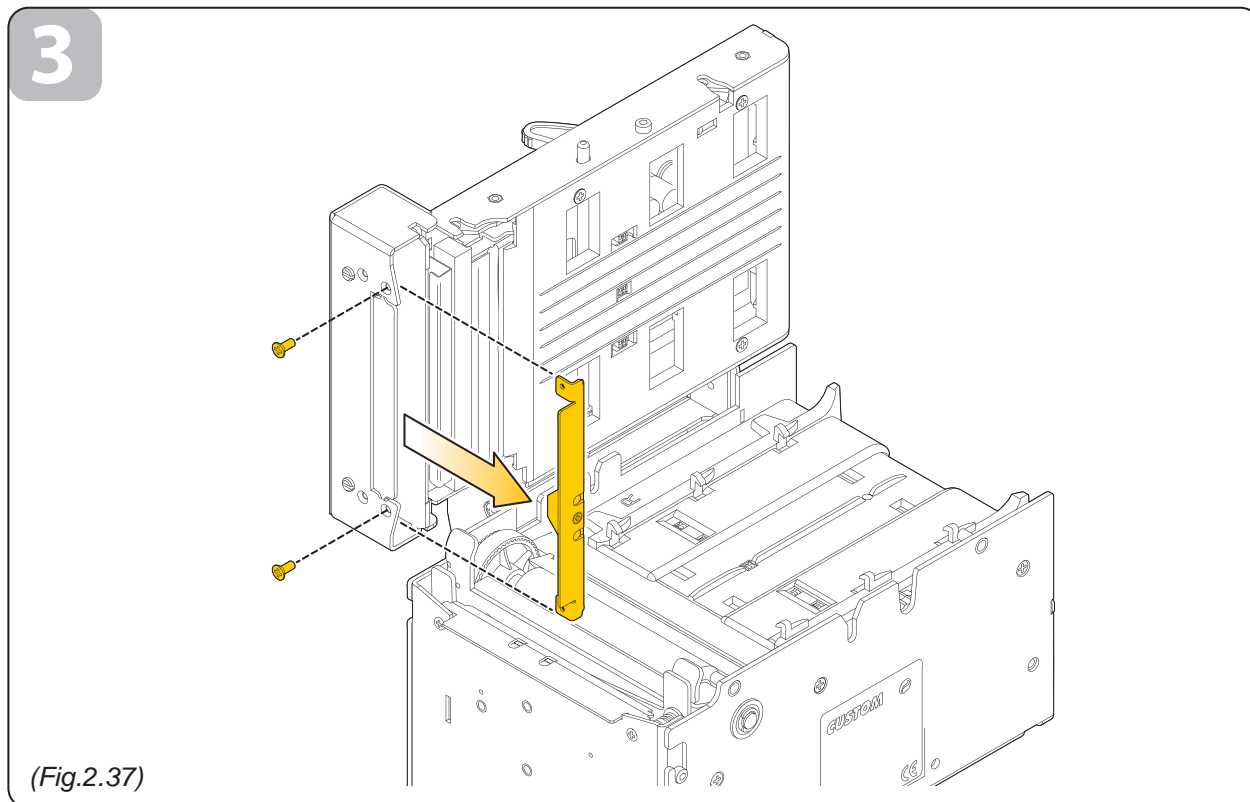


(Fig.2.35)



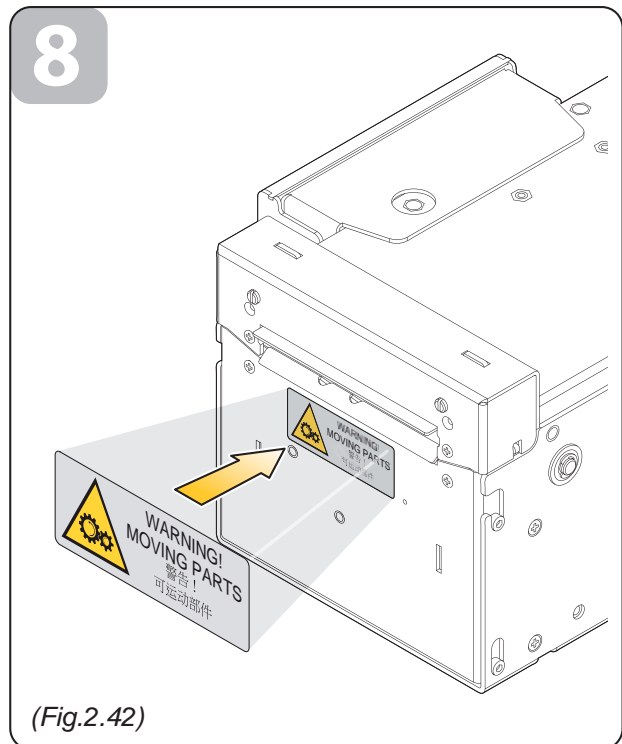
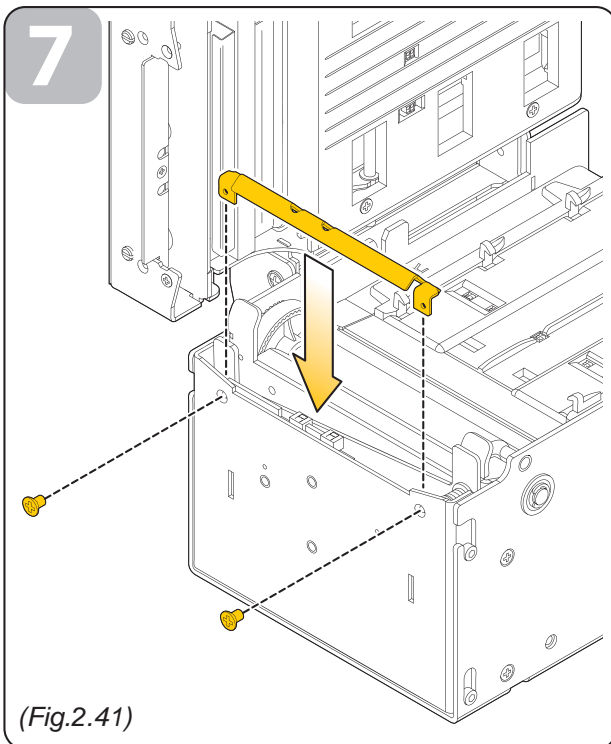
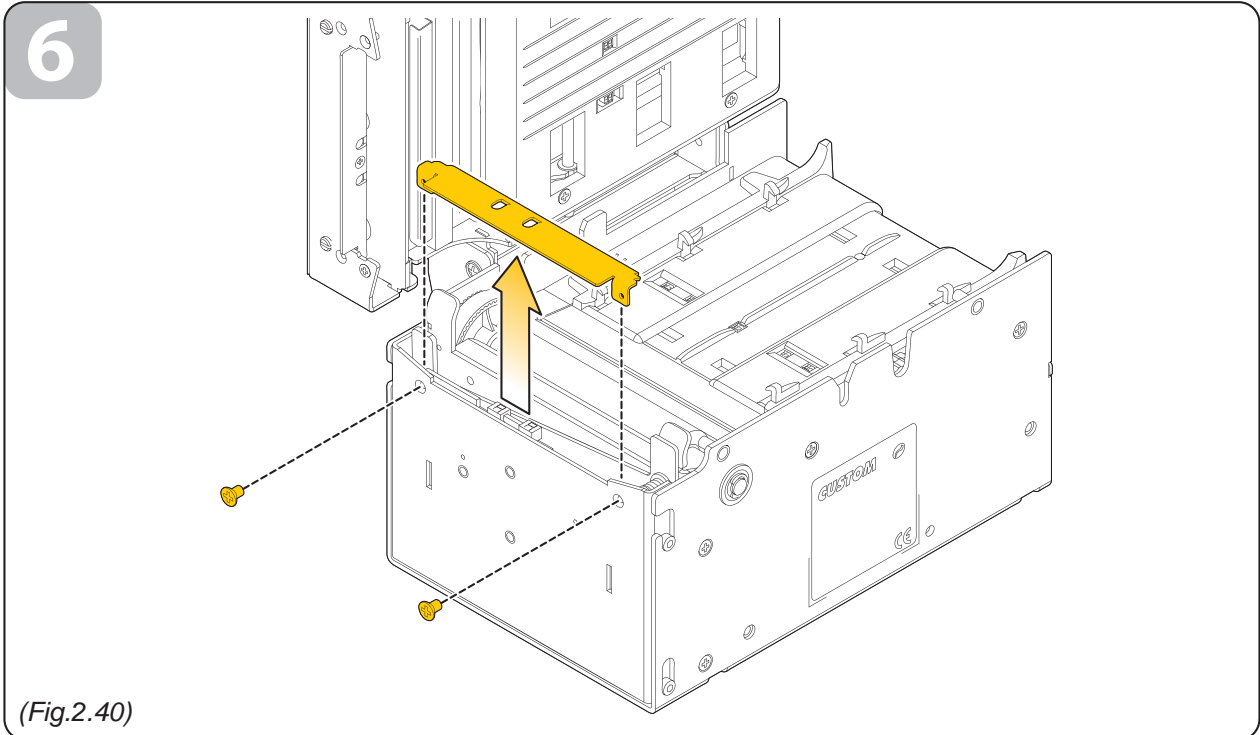
(Fig.2.36)

- Unscrew the two fixing screws and take off the upper paper mouth group of the “STANDARD” configuration (see fig.2.37).
- Using a clamp, remove the precut sheet metal on the printer cover (see fig.2.38).
- Fix the upper paper mouth group for the “STANDARD” configuration in the upper holes on the printer cover using the screws previously removed (see fig.2.39).



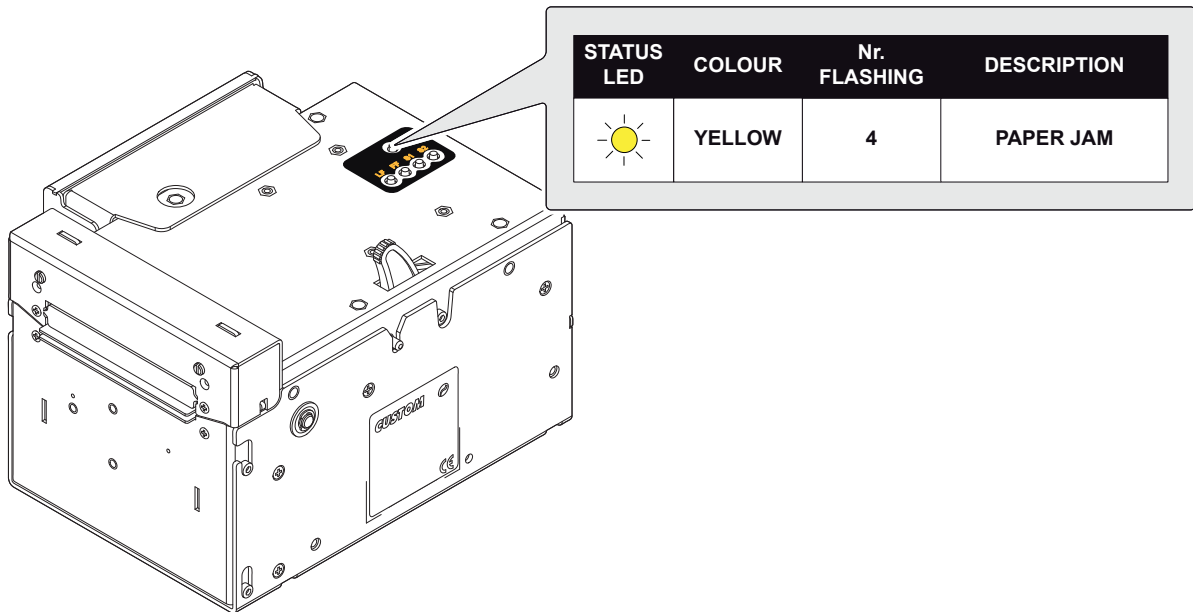
## 2. INSTALLATION AND USE

- Unscrew the two fixing screws on the cutter cover and take off the lower paper mouth of the “STANDARD” configuration (see fig.2.40).
- Fix the lower paper mouth for the “CUT AND DROP” configuration using the screws previously removed (see fig.2.41).
- Close the printer cover and paste the label on the cutter cover as shown in fig.2.42.



### 2.7.5 Paper jam

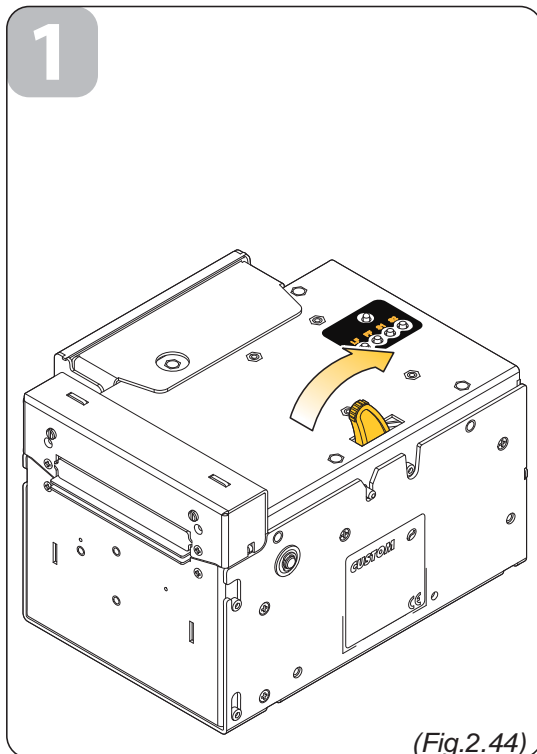
When occurs a paper jam the “status LED” signals the corresponding printer status as follows:



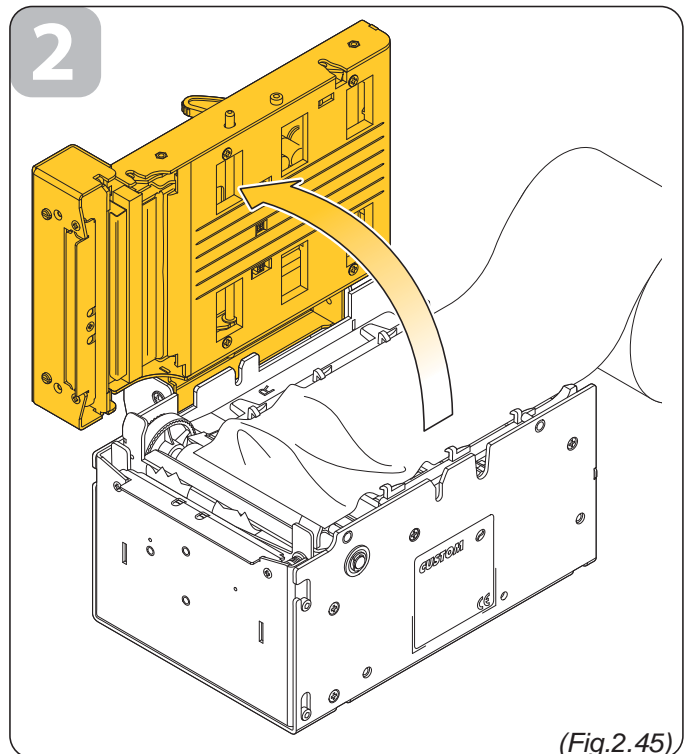
(Fig.2.43)

In case of paper jam proceed as follows:

- Open the printer cover (see fig.2.44 and fig.2.45).



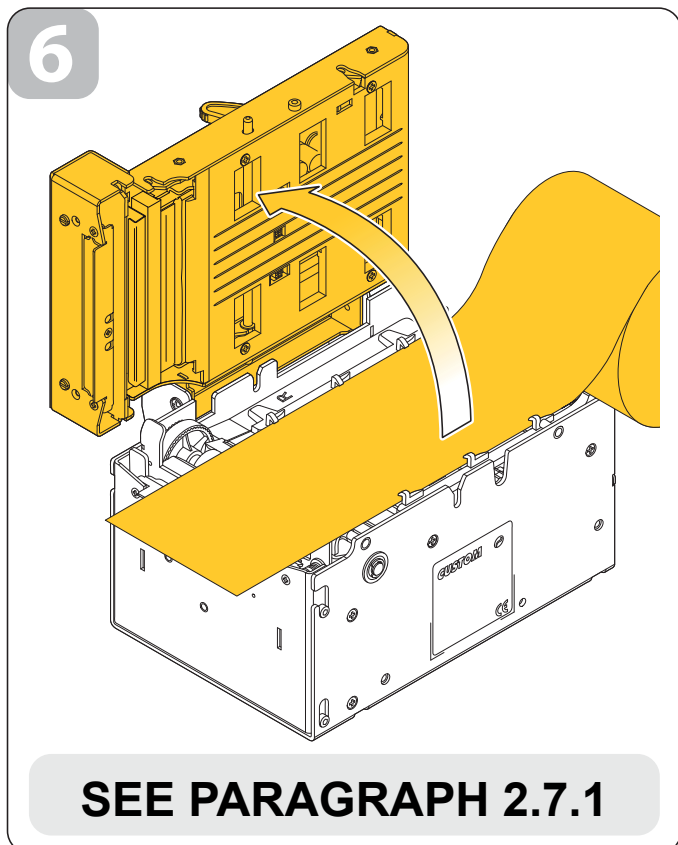
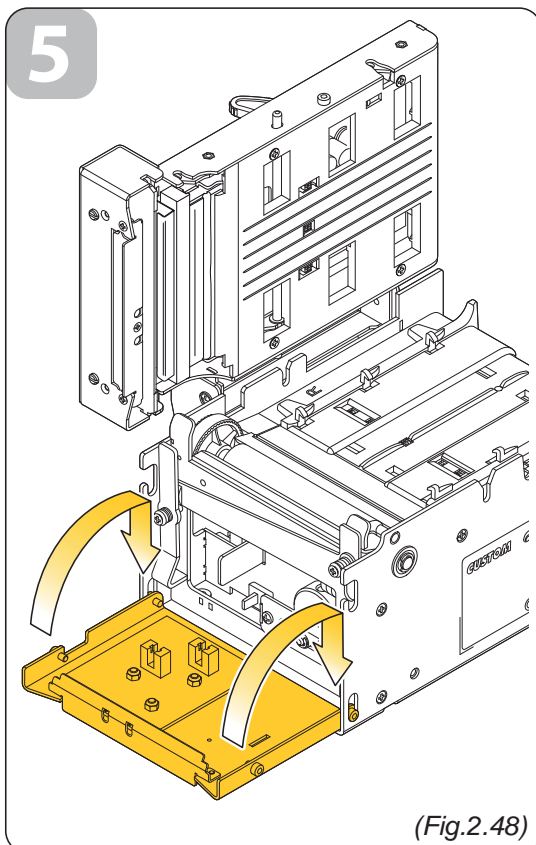
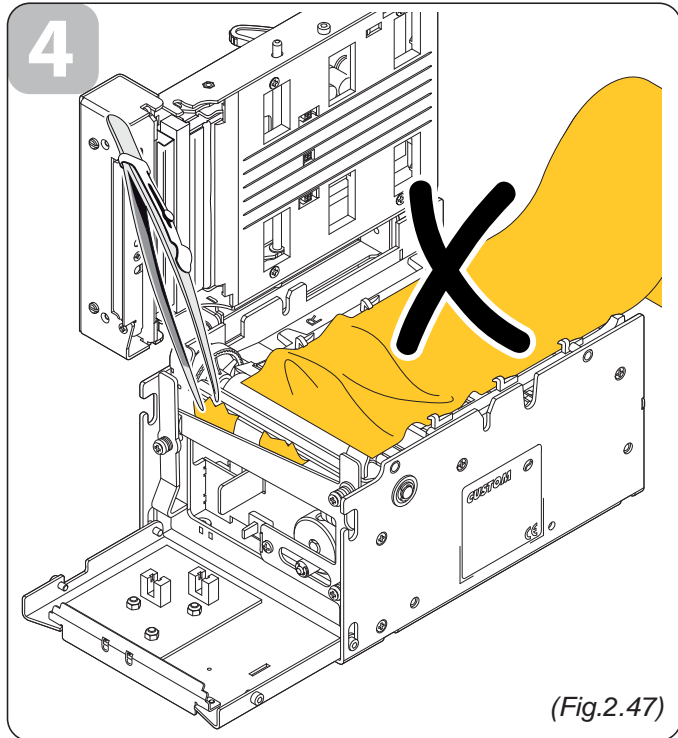
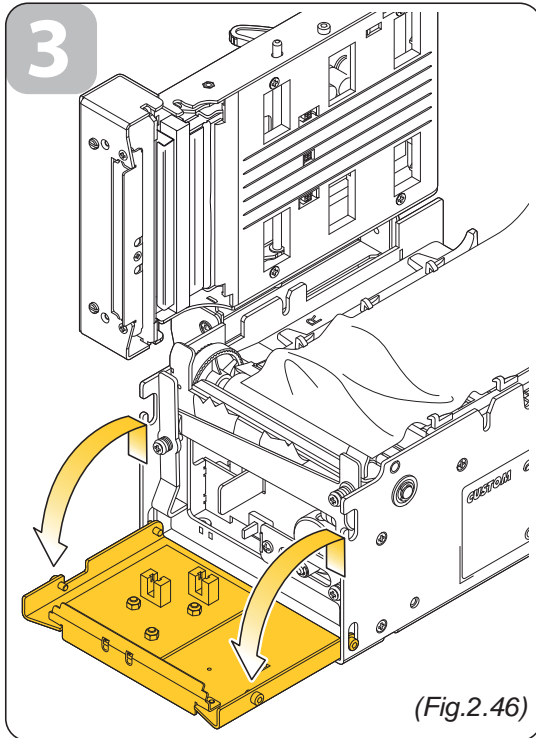
(Fig.2.44)



(Fig.2.45)

## 2. INSTALLATION AND USE

- Unlock the cutter cover (see fig.2.46).
- Remove the damaged paper and check for scraps of paper in the printer and in that case remove it (see fig.2.47); carefully remove all scraps of paper from the cutter zone. If you have difficulty in doing so, use tweezers. **DO NOT** insert any kind of object inside the cutter.
- Lock the cutter cover (see fig.2.48).
- Change the paper and close the printer cover following instructions of par.2.7.1.



### 2.7.6 Cleaning the printing head

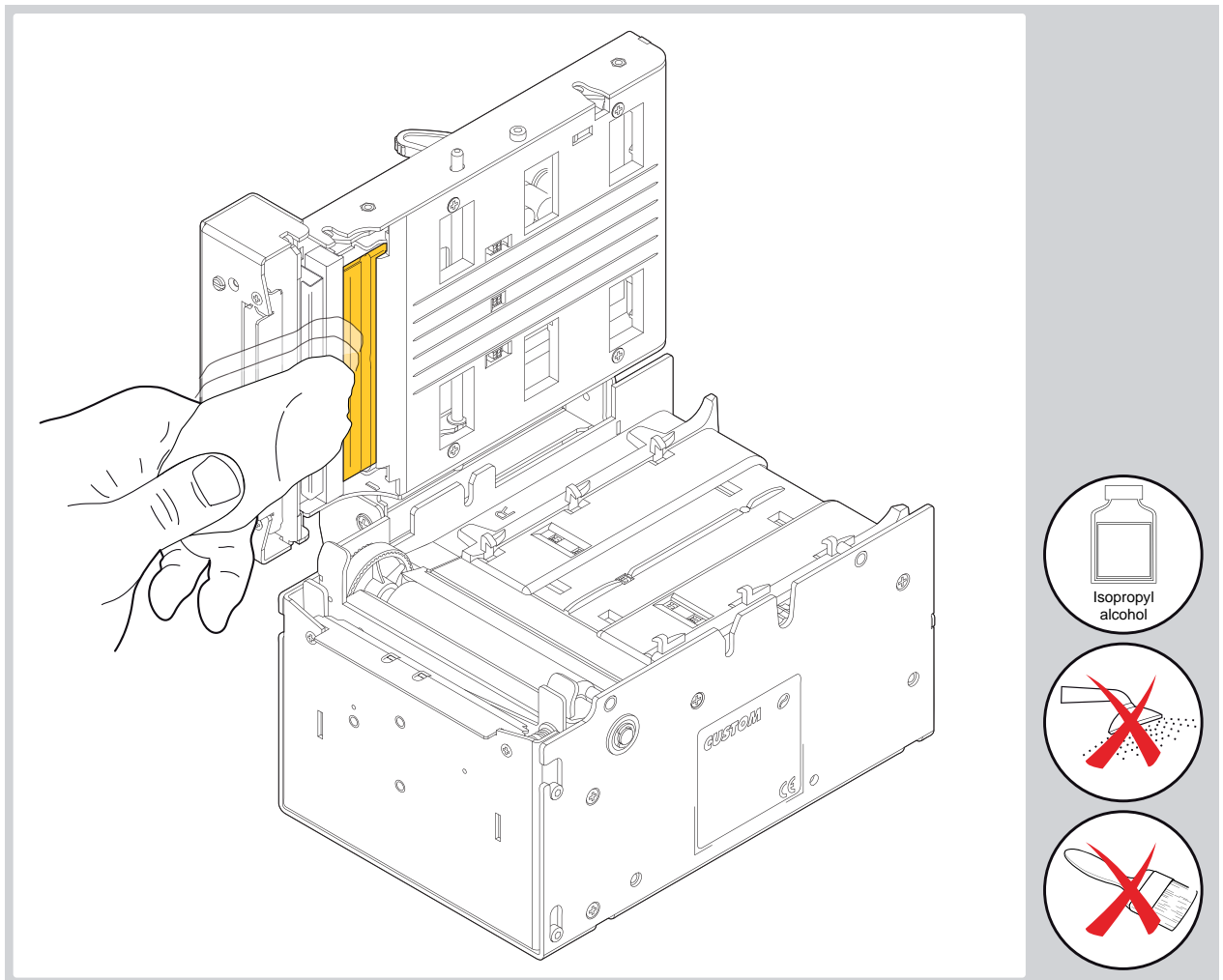


**WARNING:**

- Do not touch the head heating line with bare hands or metal objects.
- Do not perform any operation inside the printer immediately after printing because the head and motor tend to become very hot.

First disconnect the power supply and proceed as follows:

- Open the printer cover (see previous paragraphs).
- Clean the printing head heating line using a non-abrasive cloth moistened with isopropyl alcohol (see fig.2.49).



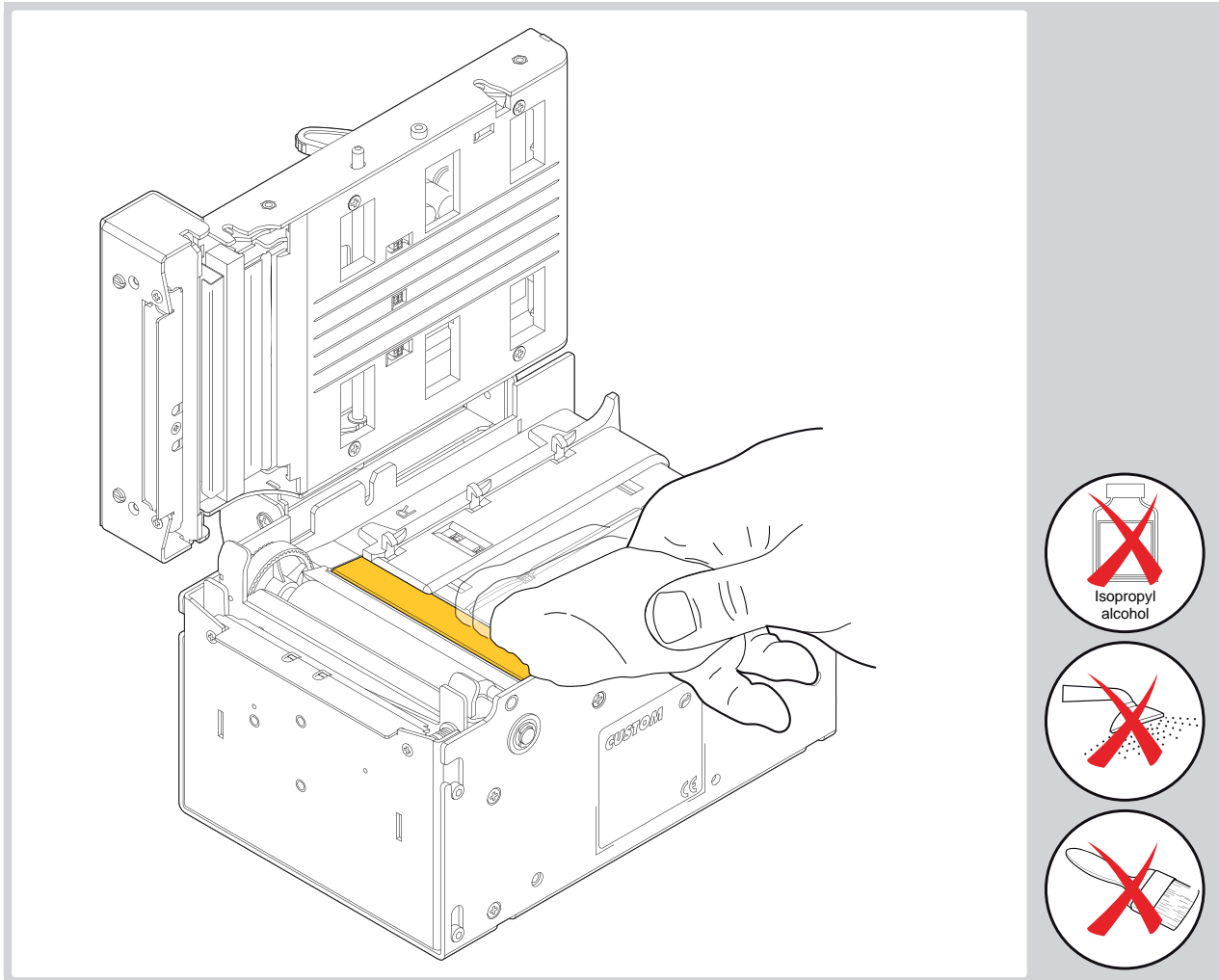
(Fig.2.49)

## 2. INSTALLATION AND USE

### 2.7.7 Cleaning the plastic window for barcode reading (for models with barcode reader)

To clean the plastic window for barcode reading proceed as follows:

- Open the printer cover (see previous paragraphs).
- Wipe with a soft cloth to avoid scratching its surface. Do not use alcohol, solvents, or hard brushes (see fig.2.50).

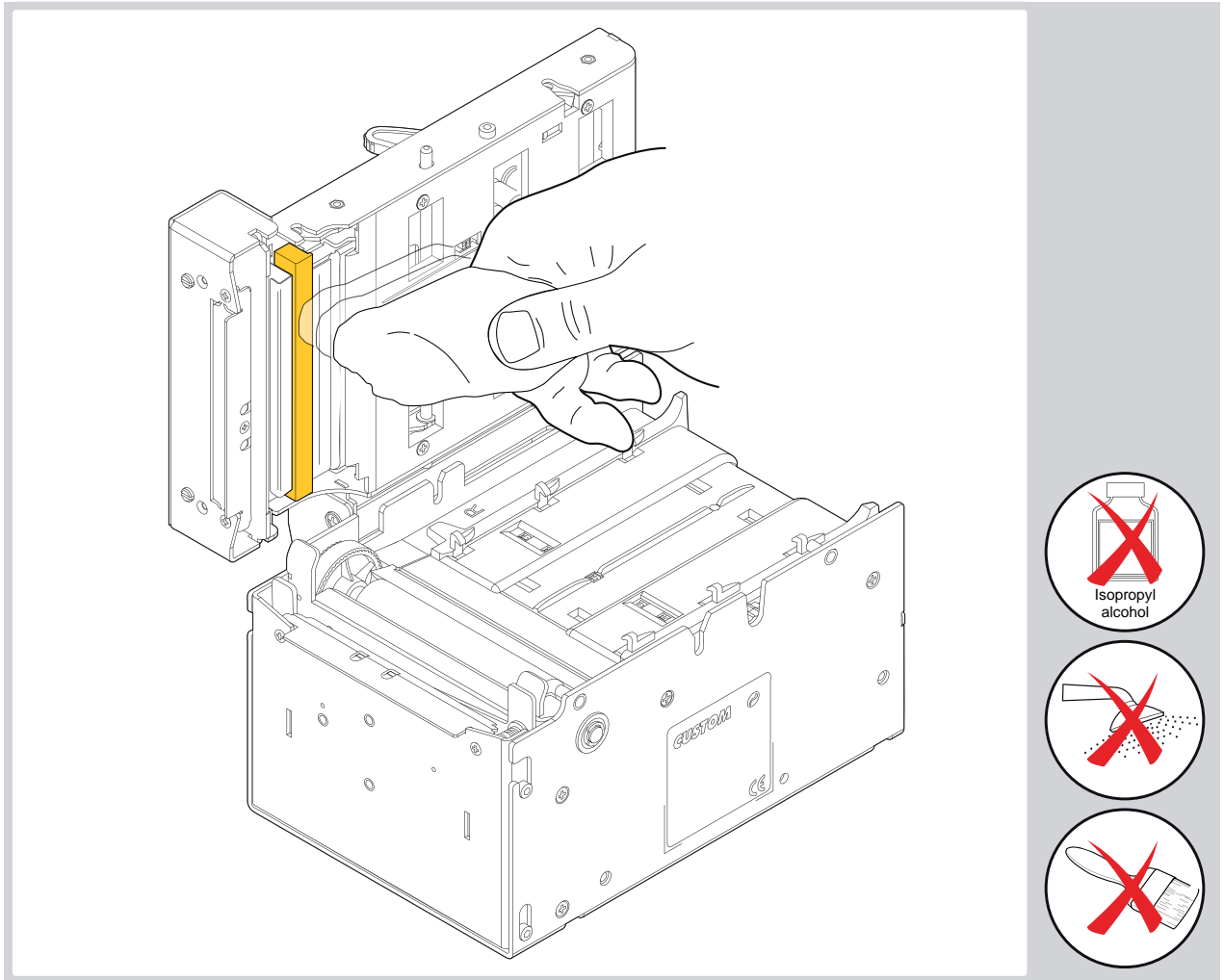


(Fig.2.50)

### 2.7.8 Cleaning the plastic window for image sensor

To clean the plastic window for ticket scanning proceed as follows:

- Open the printer cover (see previous paragraphs).
- Wipe with a soft cloth to avoid scratching its surface. Do not use alcohol, solvents, or hard brushes (see fig.2.51).



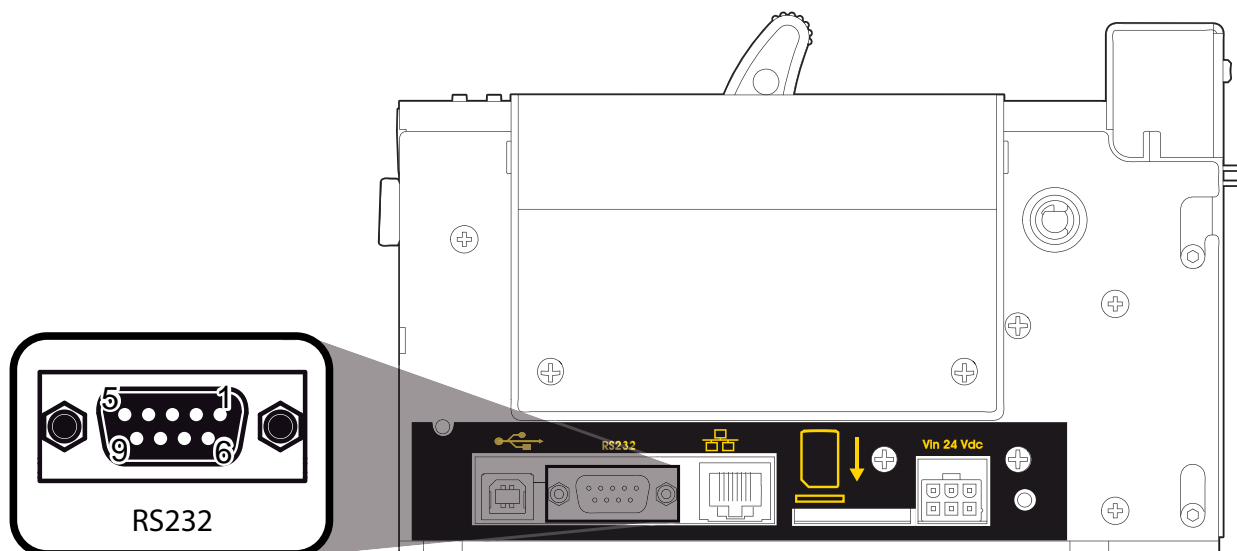
(Fig.2.51)

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## 3 INTERFACES

### 3.1 RS232 SERIAL

The printer has an RS232 serial interface and is connected by means of a 9 pin female connector (see fig.3.1). In the following table, the signals present on the connector are listed.



(Fig.3.1)

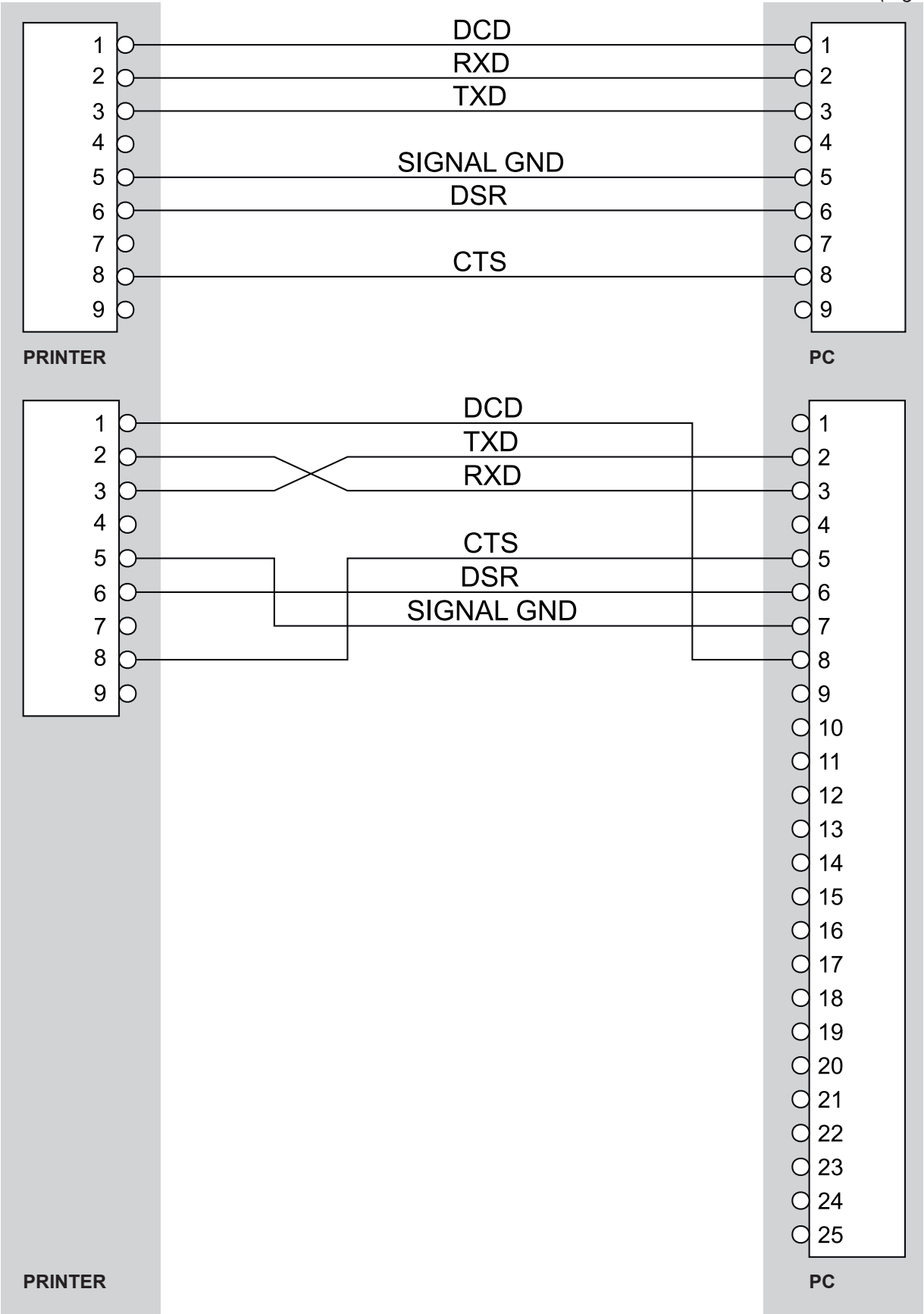
PIN	SIGNAL	IN/OUT	DESCRIPTION
1	DCD	OUT	Data Carrier detect. Printer ON (active at level RS232 high).
2	TXD	OUT	Receive data. Serial output (from Host).
3	RXD	IN	Transmit data. Serial data input (towards Host).
4	N.C.	-	Not connected.
5	GND	-	Ground signal.
6	DSR	OUT	Data set ready. Printer on and operating (active at RS232 level high).
7	N.C.	-	Not connected.
8	RTS	OUT	Clear to send. Ready to receive data (active at RS232 high level).
9	N.C.	-	Not connected

(Tab.3.1)

3. INTERFACES

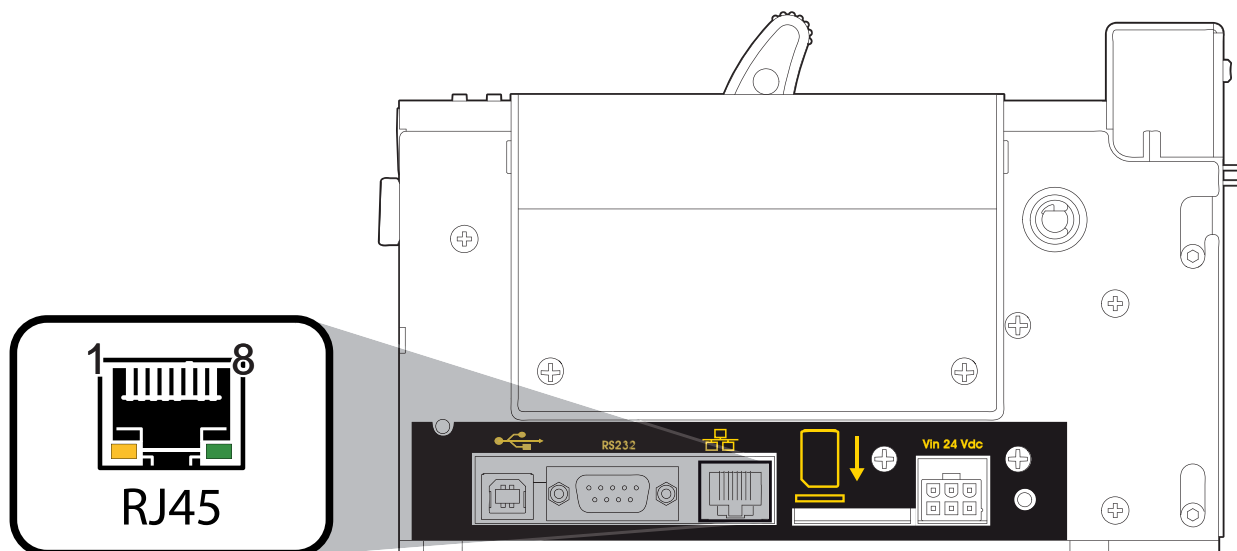
The following diagrams show examples of connections between the printer and the personal computer using 25 and 9 pin female connectors.

(Fig.3.2)



### 3.2 ETHERNET INTERFACE

KPM300 VERIPRINT® is equipped with an RJ45 interface with 8-pin connector. Refer to the table below for the connector pin signals:



(Fig.3.3)

PIN	SIGNAL	DESCRIPTION
1	ETX+	ETX+
2	ETX-	ETX-
3	ERX+	ERX+
4	N.C.	Not connected
5	N.C.	Not connected
6	ERX-	ERX-
7	N.C.	Not connected
8	N.C.	Not connected

(Tab.3.2)



**NOTE:** The functionality of two leds, Sx e Dx, are specified in the following table:

- For 10Base-T connection:

LED	HW version 2.00 or later
Sx	Link (yellow color): the led light on when a connection is active
Dx	Rx/Tx (green color): the led light on when occurs a data reception or transmission

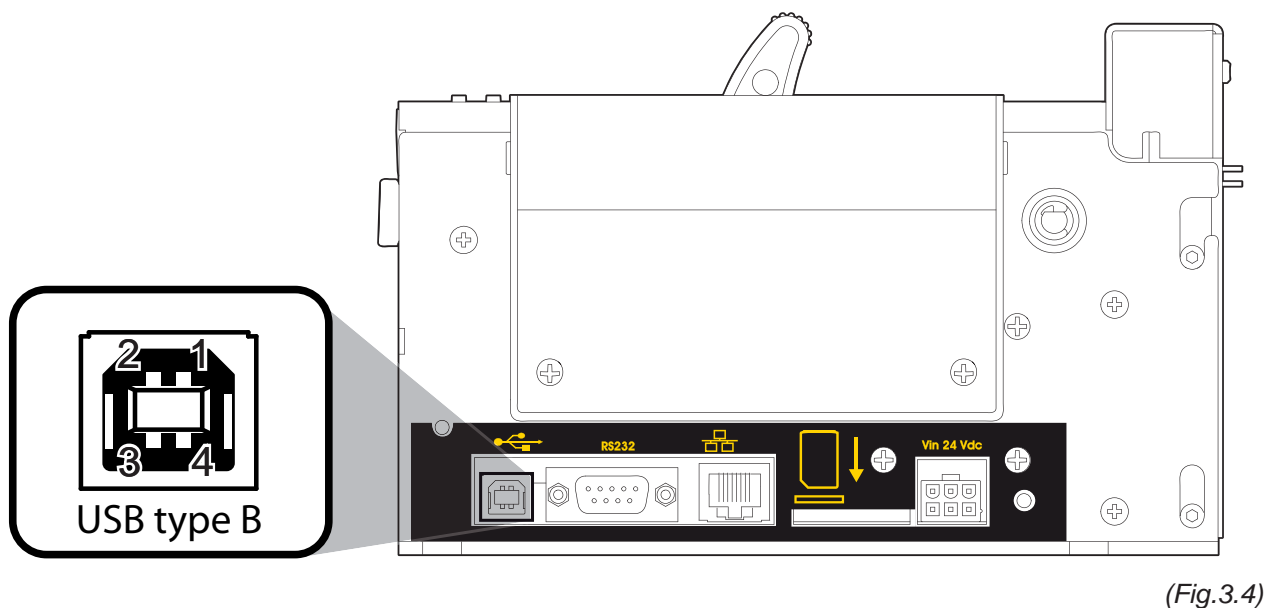
- For 10/100Base-TX connection:

LED	HW version 2.00 or later
Sx	The led light (yellow color) on when a connection is active and flashes when occurs a data reception or transmission
Dx	The led light (green color) on when occurs a 100Mbit connection and off when occurs a 10Mbit connection

**NOTE :** The printer automatically recognizes the type of connection (cross or pin-to-pin).

3. INTERFACES

3.3 USB INTERFACE



Printers with USB serial interface conform to USB 2.0 HIGH SPEED standards and have the following specifications:

- Communication speed 480 Mbit/sec
- “Receptacle series B” - type connector.

Refer to the table below for the connector pin signals and connection to a device:

(Tab.3.3)

PIN	SIGNAL	DESCRIPTION
1	VBUS	N.C.
2	D-	Data -
3	D+	Data +
4	GND	Ground signal
Shell	Shield	Cable shield

## 4 TECHNICAL SPECIFICATIONS

### 4.1 Hardware specifications

Table 4.1 gives the main technical specifications for the printer model.

(Tab.4.1)

Standard interfaces	USB	RS232	ETHERNET
Communication speed	2.0 High speed	from 1200 to 115200 bps	10 Mbit/sec, 100 Mbit/sec
Sensors	Ticket presence, head temperature, black mark detector in 6 positions and traslucid gap / hole mark detector (setting by software), ticket presence on output, cover open, cutter compartment open, external near paper end.		
Printing driver	Window™ 2K,XP, VISTA		
Receive buffer	8 Kbytes		
Flash memory	32 Mbytes		
LAST SCAN memory	8.7 Mbytes		
SD/MMC Card	Max. 2 Gbytes		
Emulation	ESC/POS™, SVELTA		
IMAGE SENSOR SPECIFICATIONS			
Scanning width	84 mm		
Scanning resolution			
Vertical	400, 200 dpi		
Horizontal	600, 300 dpi		
Files save format	BMP (256, 16, 2 gray tones)		
Saving resolution			
Vertical	400, 300, 200 dpi		
Horizontal	600, 300, 200 dpi		
Readable barcode printed	Code 39, PDF417		
BARCODE READER SPECIFICATIONS (optional)			
Barcode reader model	MR008	CX002	
Electrical Characteristics			
Scan rate	270 scans/sec	200 scans/sec	
Optical Characteristics			
Sensors	Liner CCD Sensor		
Light source	Red Leds, 639 nm		
Ambient light (Fluorescent lamp)	1500 LUX MAX	3000 LUX MAX	
Performance			
Resolution	5 mil. (0.127 mm)		
Readable Barcode	ALL UPC/EAN/JAN, Code 39, Code 39 Full ASCII, Code 128, Code 93, Interleave 25, Industrial 25, Matrix 25, China Postage, CODABAR/NW7, Code 11, MSI/PLESSEY, Code 32)		

#### 4. TECHNICAL SPECIFICATIONS

RFID Reader/writer (mifare/icode) SPECIFICATIONS	
Supported transponders	ISO1443-MIFARE® (MIFARE Ultralight, MIFARE 1K, MIFARE 4K) ISO159693 (icode)
PRINTER SPECIFICATIONS	
Printing method	Thermal, fixed head (8 dot/mm)
Resolution	203 DPI (8 dot/mm)
Printing speed	
High quality	180 mm/sec
Normal	150 mm/sec
High speed	120 mm/sec
Printing mode	Normal, 90°, 180°, 270°
Printing format	Height/Width from 1 to 8, bold, reverse, underlined, italic
Character fonts	
ESC/POS™ emulation	PC437, PC850, PC860, PC863, PC865, PC858 (euro)
SVELTA emulation	20 fonts
Graphic memory	Logos dynamic management (max 1MB graphics memory)
Printable Barcode	UPCA, UPCE, EAN13, EAN8, CODE 39, ITF, CODABAR, CODE 93, CODE 128, CODE 32, DATAMATRIX, PDF417, AZTEC
CARATTERISTICHE CARTA	
Type of paper	Thermal rolls Heat-sensitive side on outside of roll Fan Fold thermal paper with notch
Paper width	from 54mm to 82.5mm (2mm step)
Recommend type of paper	from 80 g/m <sup>2</sup> to 255 g/m <sup>2</sup> (KANZAN KP460, MITSUBISHI TL4000) from 100 g/m <sup>2</sup> to 250 g/m <sup>2</sup> ("BUSTER" configuration)
External roll diameter	max Ø300 mm <sup>(1)</sup>
Internal roll core diam.	25mm (+1mm)
Paper end	Not attached to roll core
Core type	Cardboard or plastic
ELECTRICAL SPECIFICATIONS	
Power supply	24 Vdc ± 10%
Absorptions	
Average <sup>(2)</sup>	0,8 A
Stand by	0.15 A
ENVIRONMENTAL CONDITIONS	
Operating temperature	0-50°C
Relative humidity	10-85% Rh
Storage temperature / Humidity	-20 – +70 °C / 10-90% Rh

MECHANICAL SPECIFICATIONS	
<b>Dimensions</b> <sup>(3)</sup> (w/o paper roll)	Length [mm] = 191
	Width [mm] = 160
	Height [mm] = 123 <i>(with cover closed)</i>
<b>Weight [gr]</b> <sup>(3)</sup>	3500 (w/o paper roll)

**NOTE:**

- <sup>(1)</sup> : For external rolls diameter higher to 100mm it's recommended to use a paper pretensioning device.
- <sup>(2)</sup> : Referred to a standard CUSTOM receipt (L=10cm, Density = 12,5% dots on).
- <sup>(3)</sup> : Referred to model in the STANDARD configuration.

## 4. TECHNICAL SPECIFICATIONS

### 4.2 Emulation specifications

Table 4.2 gives the main specifications for the characters set for both the emulations.

(Tab.4.2)

ESC/POST™ EMULATION			
Character set	3		
Character density	11 cpi	15 cpi	20 cpi
Number of columns	35	45	64
Characters (L x H pixel)			
Normal	18x24	14x24	10x24
SVELTA EMULATION			
Character set			
Not proportional characters (WxH pixel) <sup>(1)</sup>			
F0 = FONT 8x12 F4 = FONT 8x12-2	8x12 =	25 cpi	
F1 = FONT 12x12	12x12 =	17 cpi	
F2 = FONT 14x11	14x11 =	15 cpi	
F5 = FONT 10x24	10x24 =	20 cpi	
F9 = FONT 16x24 F10 = FONT 16x24-1 <sup>(3)</sup> F11 = FONT 16x24-2 <sup>(3)</sup>	16x24 =	13 cpi	
F12 = FONT 14x24 F13 = FONT 14x24-1 <sup>(3)</sup>	14x24 =	15 cpi	
F14 = FONT 18x24	18x24 =	11 cpi	
F15 = FONT 28x20	28x20 =	7 cpi	
F16 = FONT 20x15	20x15 =	10 cpi	
F17 = FONT 16x24CN <sup>(3)</sup>	16x24 =	13 cpi	
F18 = FONT OCRB	20x32 =	10 cpi	
Proportional characters (dots) <sup>(2)</sup>			
F3 = HEL10PT8	10 (h=34)		
F6 = HEL16PT8	16 (h=55)		
F7 = HEL14PT8	14 (h=50)		
F8 = HEL8PT8	8 (h=28)		



#### NOTE:

During power-up, if the FF FORM FEED key is held down, the printer executes the FONT TEST.

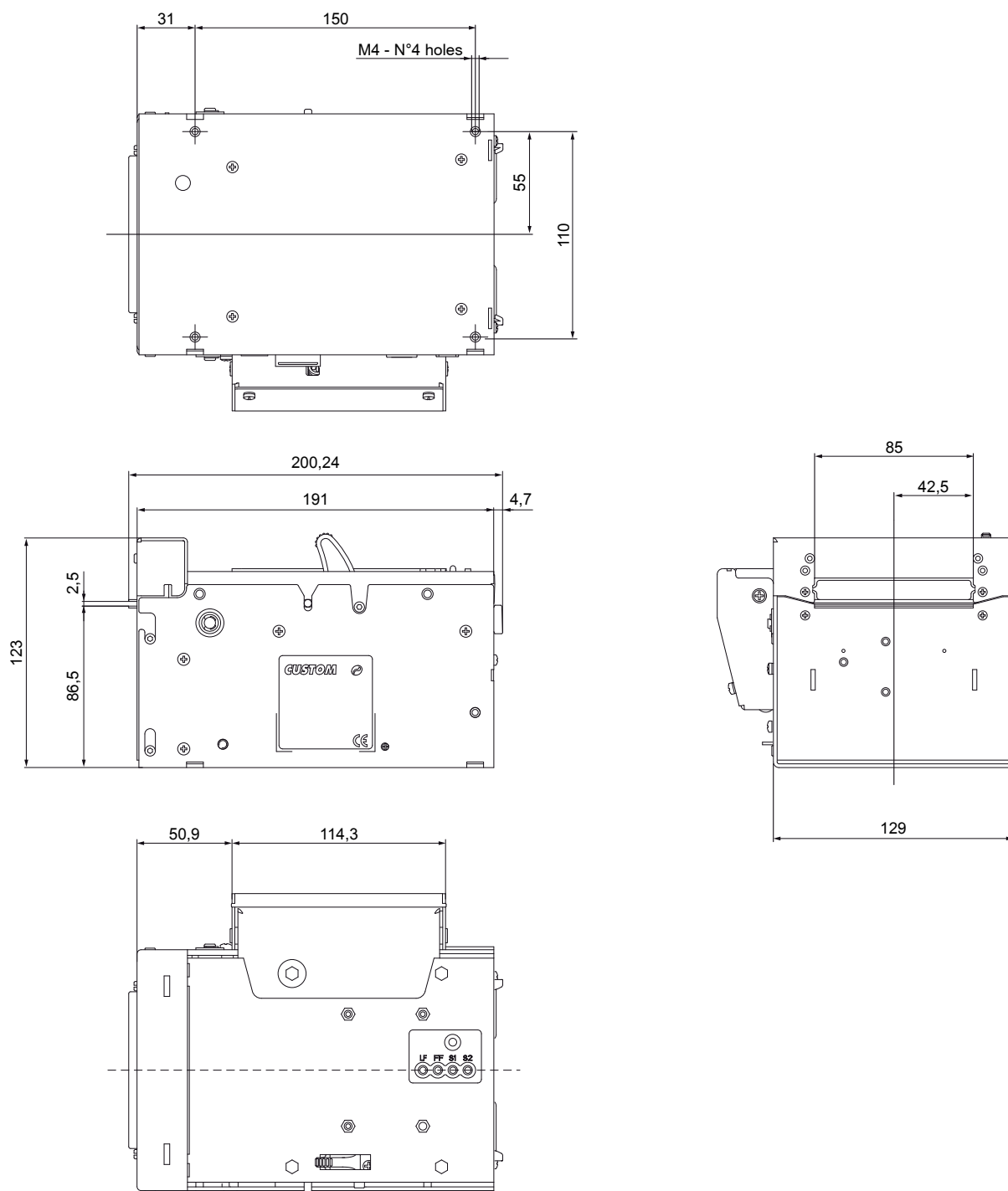
<sup>(1)</sup> : A fixed font is the opposite of a proportional font and is a fixed-pitch font.

<sup>(2)</sup> : A proportional font is a font in which different characters have different pitches (width).

<sup>(3)</sup> : The fonts with the same name and dimension contain different characters in different positions from theirs.

### 4.3 DIMENSIONS

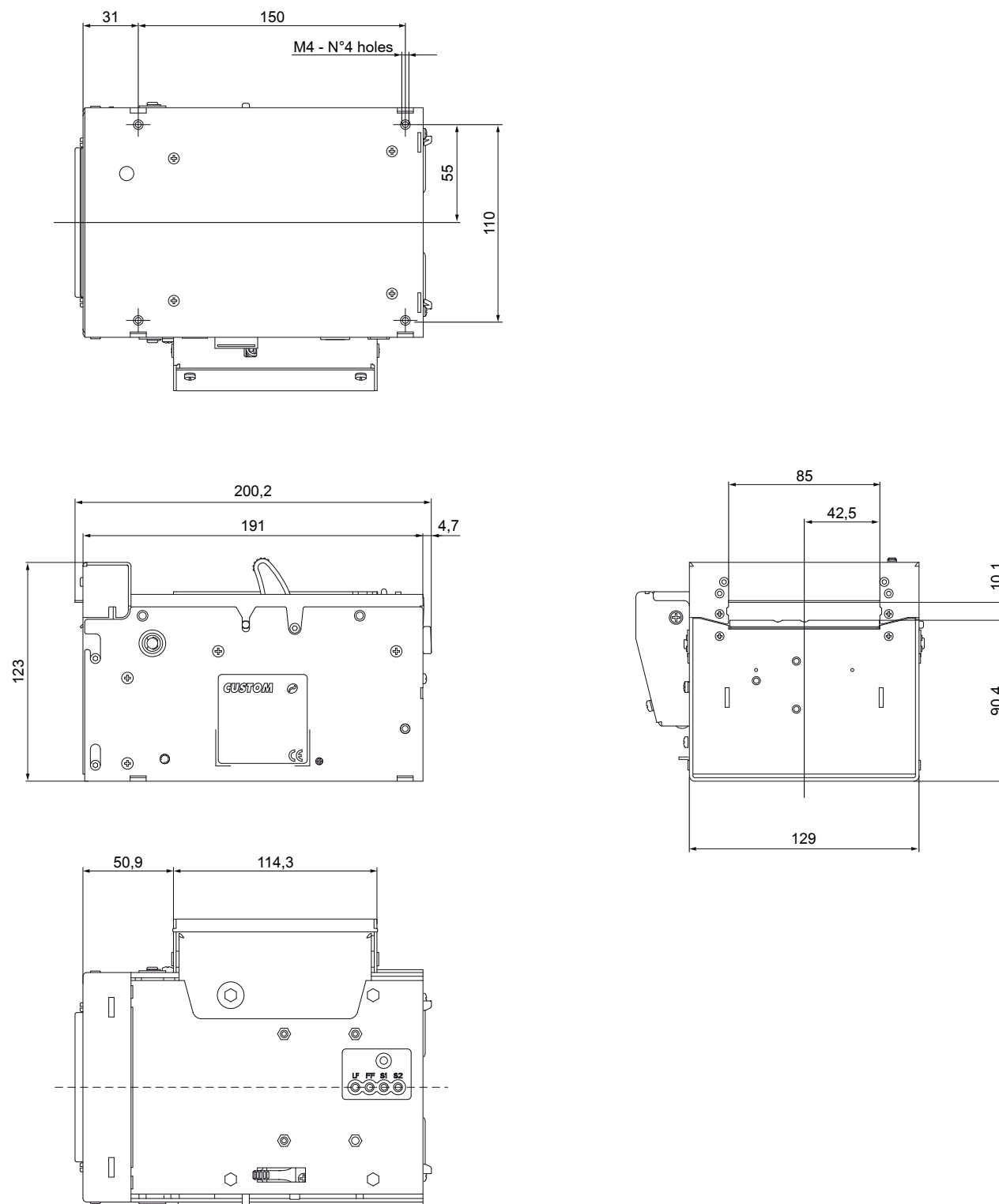
Figures 4.1 shows the dimensions of the printer.



(Fig.4.1)

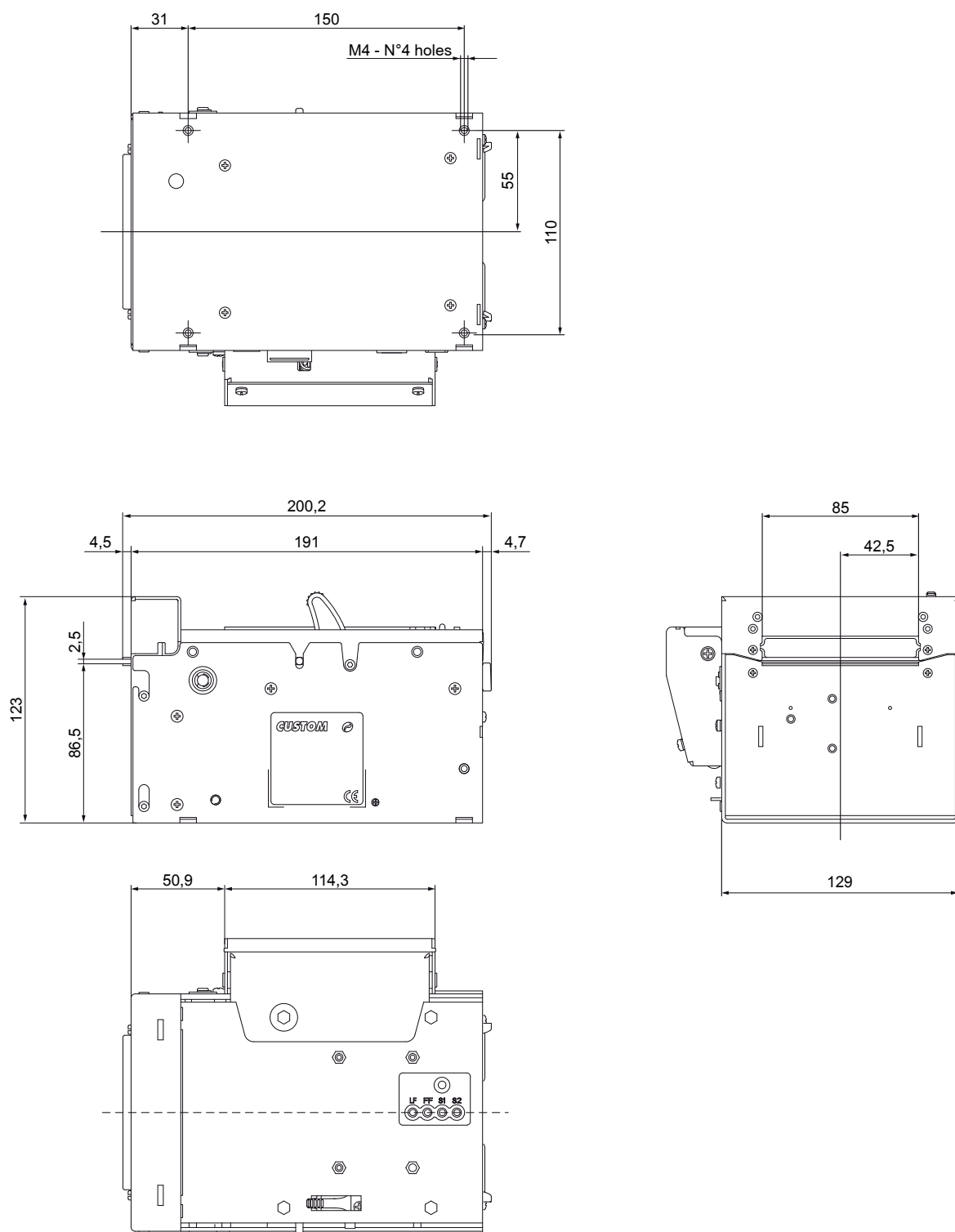
## 4. TECHNICAL SPECIFICATIONS

The figure 4.2 shows the dimensions of the printer with the “CUT AND DROP” configuration.



(Fig.4.2)

The figure 4.3 shows the dimensions of the printer with the “BUSTER” configuration.



(Fig.4.3)

Blank page

## 5 CHARACTER SETS

### 5.1 CHARACTER SETS IN ESC/POS™ EMULATION

The printer has 3 fonts of varying width (11, 15 and 20 cpi) which may be accessed through programming (see par.2.3) or control characters. Each of these fonts offers the following code tables: PC437, PC850, PC860, PC863, PC865, PC858. Shown below in figures 5.1 are examples of the 11 cpi character set.

CHARS MAP	
Font 11 cpi	
	0 1 2 3 4 5 6 7 8 9 A B C D E F
2	!"#\$%&'()*+,-./
3	0 1 2 3 4 5 6 7 8 9 : ; < = > ?
4	@ A B C D E F G H I J K L M N O
5	P Q R S T U V W X Y Z [ \ ] ^ _
6	` a b c d e f g h i j k l m n o
7	p q r s t u v w x y z {   } ~
8	Ç Ü é á â ã ä å ç è é ê ë ì í î ï Æ
9	É æ Å Ö ö Ø ù ú û ü Ö ø Æ Ø × f
A	á í ó ú ñ Ñ ã õ ö ~ - ½ ¾ « »
B	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
C	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
D	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
E	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
F	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
8	Ç Ü é á â ã ä å ç è é ê ë ì í î ï Æ
9	É æ Å Ö ö Ø ù ú û ü Ö ø Æ Ø × f
A	á í ó ú ñ Ñ ã õ ö ~ - ½ ¾ « »
B	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
C	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
D	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
E	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
F	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
8	Ç Ü é á â ã ä å ç è é ê ë ì í î ï Æ
9	É æ Å Ö ö Ø ù ú û ü Ö ø Æ Ø × f
A	á í ó ú ñ Ñ ã õ ö ~ - ½ ¾ « »
B	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
C	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
D	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
E	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
F	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
8	Ç Ü é á â ã ä å ç è é ê ë ì í î ï Æ
9	É æ Å Ö ö Ø ù ú û ü Ö ø Æ Ø × f
A	á í ó ú ñ Ñ ã õ ö ~ - ½ ¾ « »
B	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
C	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
D	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
E	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
F	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
8	Ç Ü é á â ã ä å ç è é ê ë ì í î ï Æ
9	É æ Å Ö ö Ø ù ú û ü Ö ø Æ Ø × f
A	á í ó ú ñ Ñ ã õ ö ~ - ½ ¾ « »
B	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
C	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
D	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
E	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞
F	¼ ½ ¾ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅞

**PC437**  
(Usa, Standard, Europe)

**PC850**  
(Multilingual)

**PC860**  
(Portuguese)

**PC863**  
(Canadian-French)

**PC865**  
(Nordic)

**PC858**  
(Euro symbol)

(Fig.5.1)

## 5. CHARACTER SETS

---

To print the Euro (€) symbol, the command sequence is: \$1B, \$74, \$13, \$D5

### 5.2 CHARACTER SETS IN SVELTA EMULATION

In SVELTA emulation the printer has 20 embedded fonts of varying width which may be accessed through control characters (see commands description in SVELTA emulation of Command Reference). The following list shows the font availables and relative dimensions in dot:

- |                                    |  |
|------------------------------------|--|
| • Font HEL8PT8 <sup>(A)</sup>      | Proportional Font with fixed height (H = 28 dot) |
| • Font HEL10PT8 <sup>(A)</sup>     | Proportional Font with fixed height (H = 34 dot) |
| • Font HEL14PT8 <sup>(A)</sup>     | Proportional Font with fixed height (H = 50 dot) |
| • Font HEL16PT8 <sup>(A)</sup>     | Proportional Font with fixed height (H = 55 dot) |
| • Font 18x24                       | (Font 18x24 in ESC/POS emulation)                |
| • Font 14x24                       | (Font 14x24 in ESC/POS emulation)                |
| • Font 10x24                       | (Font 10x24 in ESC/POS emulation)                |
| • Font 8x12 <sup>(B)</sup>         | Fixed Font                                       |
| • Font 8x12-2 <sup>(B)</sup>       | Fixed Font                                       |
| • Font 12x12 <sup>(B)</sup>        | Fixed Font                                       |
| • Font 14x11 <sup>(B)</sup>        | Fixed Font                                       |
| • Font 16x24 <sup>(B)</sup>        | Fixed Font                                       |
| • Font 16x24_1 <sup>(B) (C)</sup>  | Fixed Font                                       |
| • Font 16x24_2 <sup>(B) (C)</sup>  | Fixed Font                                       |
| • Font 20x15 <sup>(B)</sup>        | Fixed Font                                       |
| • Font 28x20 <sup>(B)</sup>        | Fixed Font                                       |
| • Font 14x24_1 <sup>(B) (C)</sup>  | Fixed Font                                       |
| • Font 16x24CN <sup>(B) (C)</sup>  | Fixed Font                                       |
| • Font OCRB (20x32) <sup>(B)</sup> | Fixed Font                                       |

For further informations to characters representations print directly the Font Test<sup>(D)</sup>.



- NOTE:** <sup>(A)</sup> A proportional font is a font in which different characters have different pitches (widths).  
<sup>(B)</sup> A fixed font is the opposite of a proportional font and is a fixed-pitch font.  
<sup>(C)</sup> The fonts with the same name and dimension contain different characters in different positions from theirs.  
<sup>(D)</sup> During power-up, if the FORM FEED (FF) key is held down, the printer executes the FONT TEST.

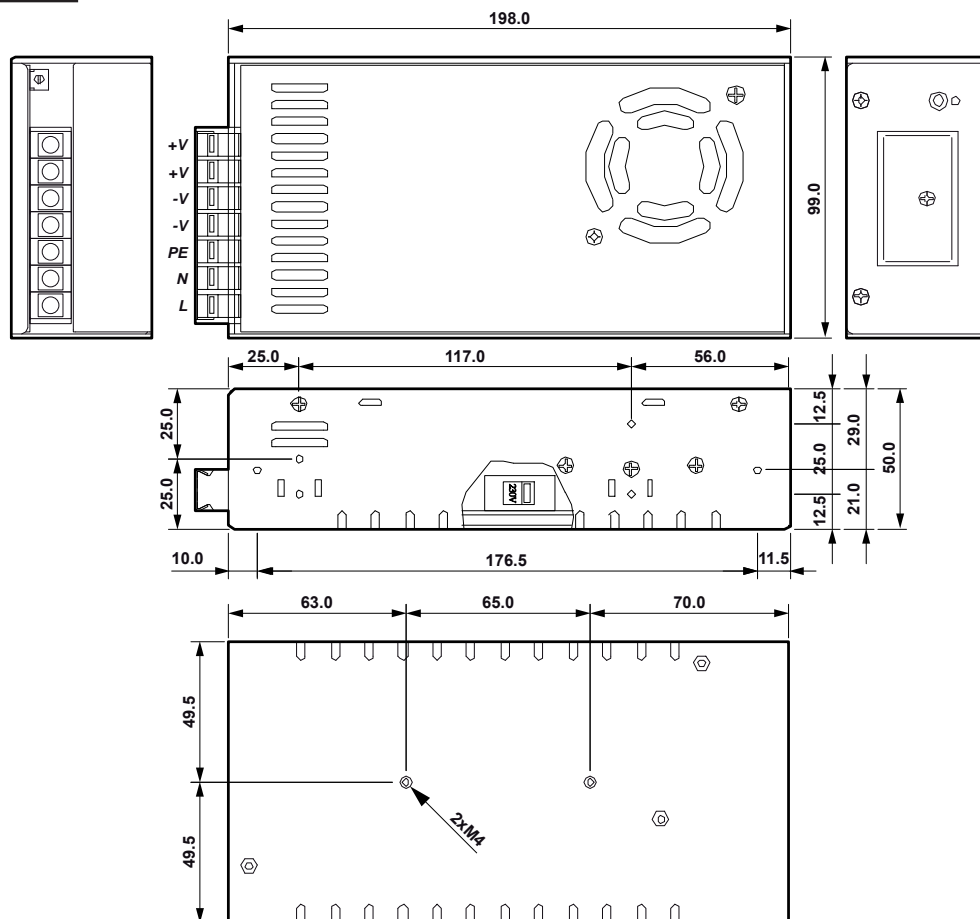
## A. ACCESSORI E RICAMBI

### A.1 ACCESSORIES

#### A.1.1 Power supply

The figure below illustrates the power supply provided by Custom to be used for printer operation.

**Dimensions in mm:**



(Fig.A.1)

PPSPS-240-P24 Switching power supply 24V 240W		
Input specification	AC Input	115V ~ 5.0A
		230V ~ 2.5A
	Input frequency	47Hz ÷ 63Hz
Output specification	Output voltage	24V
	Output current	Max. 10A
	Efficiency	Typ. 83%
	Power	Max. 240W
Protection	Over Load	Over 105% ~ 180% of rating, recovers automatically after fault condition has been removed
	Over Voltage	27.6 ~ 33.6V
	Short Circuit	Shutdown, recovers automatically after fault condition has been removed.
Environmental condition	Operating temperature	0°C ÷ 50°C
	Humidity	10% ÷ 85% Rh (senza condensa)
	Storage temperature / Humidity	-20°C ÷ +75°C / 10% ÷ 95% (senza condensa)

### A.1.2 External paper roll holder

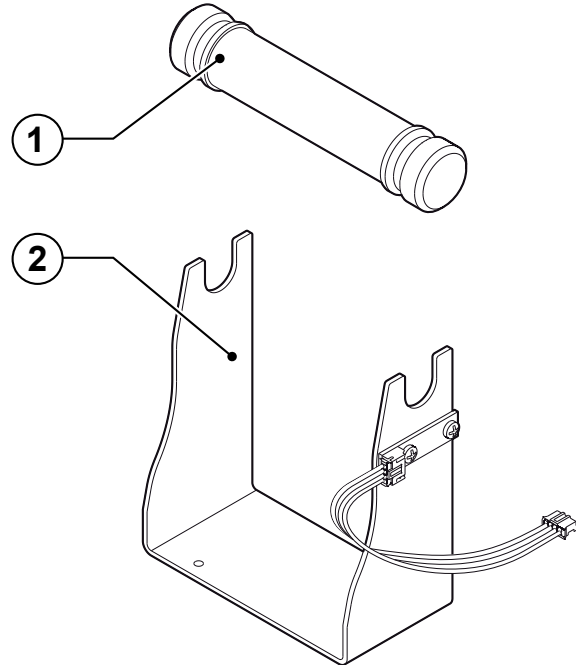
An external paper roll holder kit (see fig.A.2) is available for the printer to make it possible to use larger-width rolls of paper ( $\varnothing$  ext.150mm max).

**PCXSP-KPM300**

Paper roll holder kit with sensor

The kit includes (see fig.A.2):

- Paper roll pin (1);
- Paper holder support (2) with near paper end sensor.

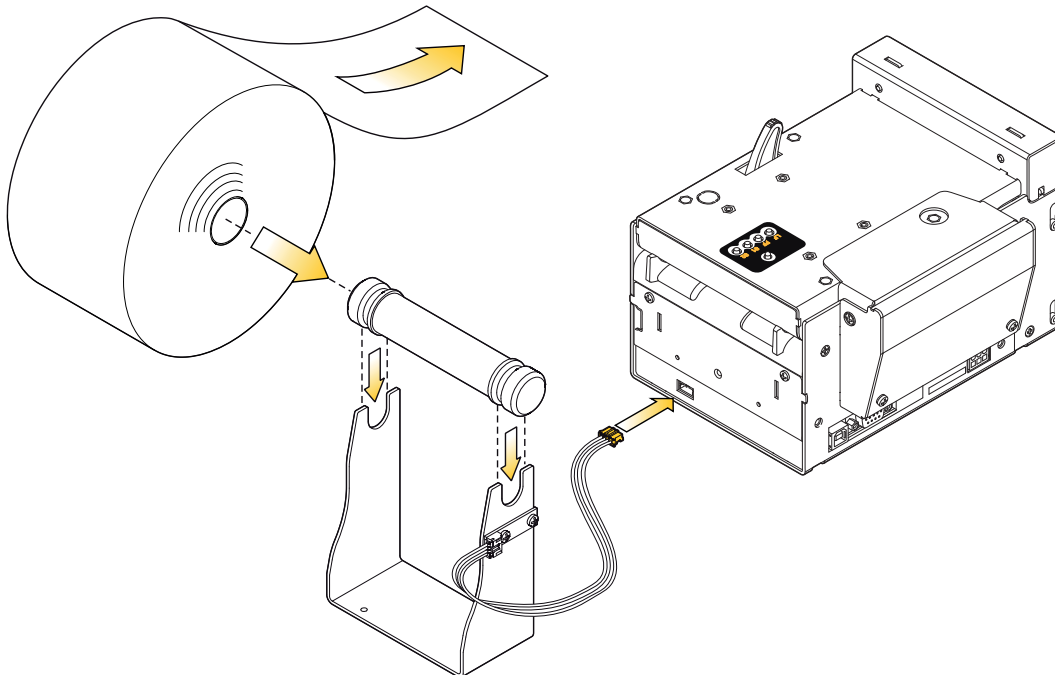


(Fig.A.2)

#### Assembly instructions

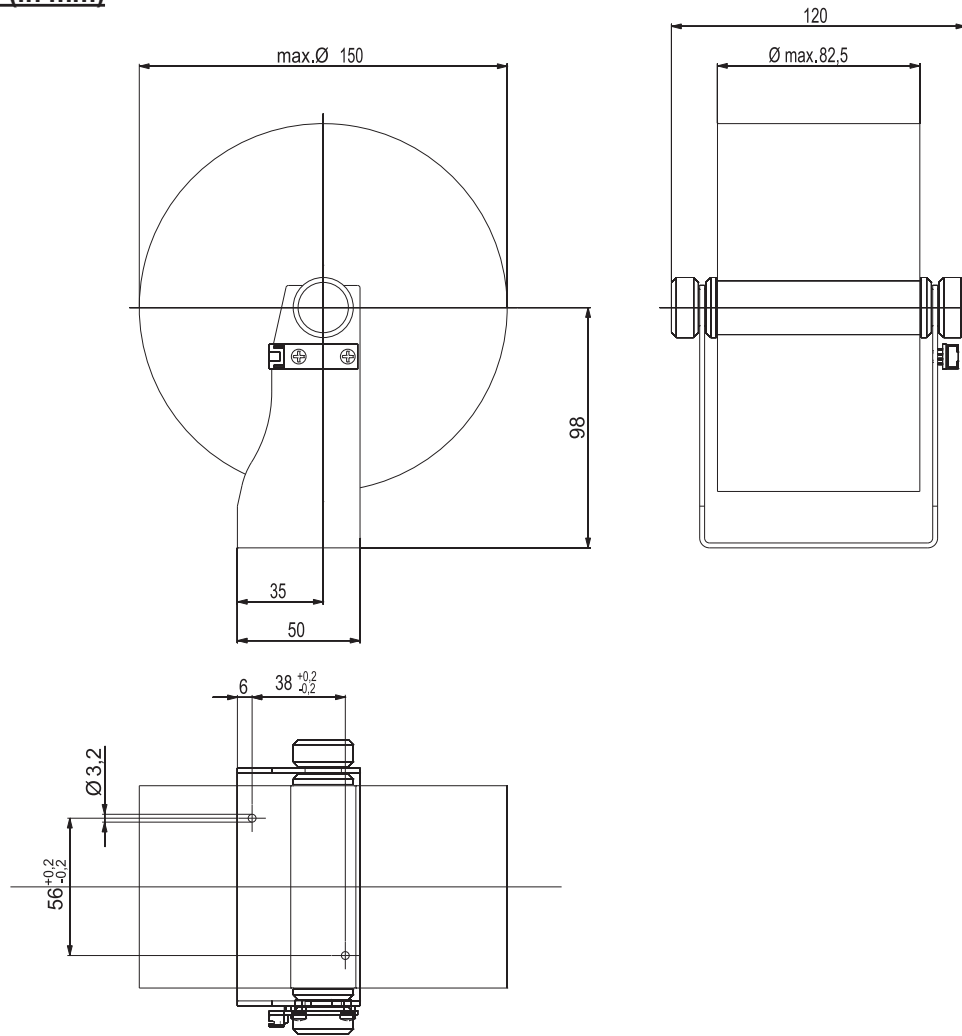
- Insert the pin in the paper roll.
- Put the roll assembled to the pin on the support.
- Connect the near paper end sensor with printer (see fig.A.3).

(Fig.A.3)



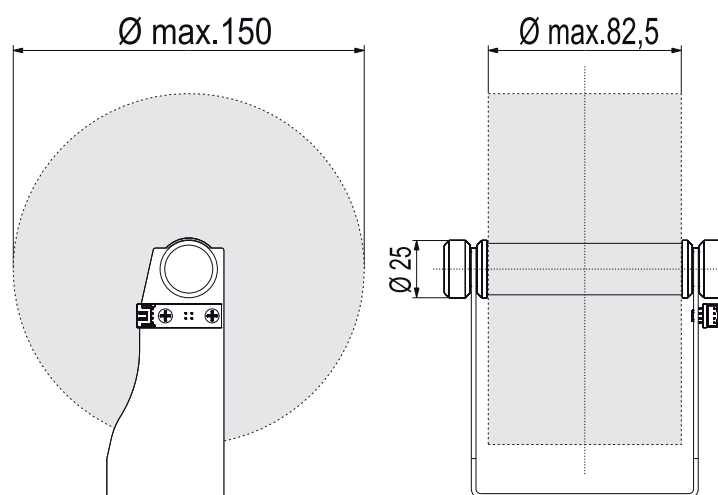
**NOTA:** To load paper referred to the instructions indicated in par.1.7.1 of this manual.

## Dimensions (in mm)



(Fig.A.4)

## Paper roll specifications



(Fig.A.5)



**NOTA:** For external rolls diameter higher to 100mm it's recommended to use a paper pre tensioning device.

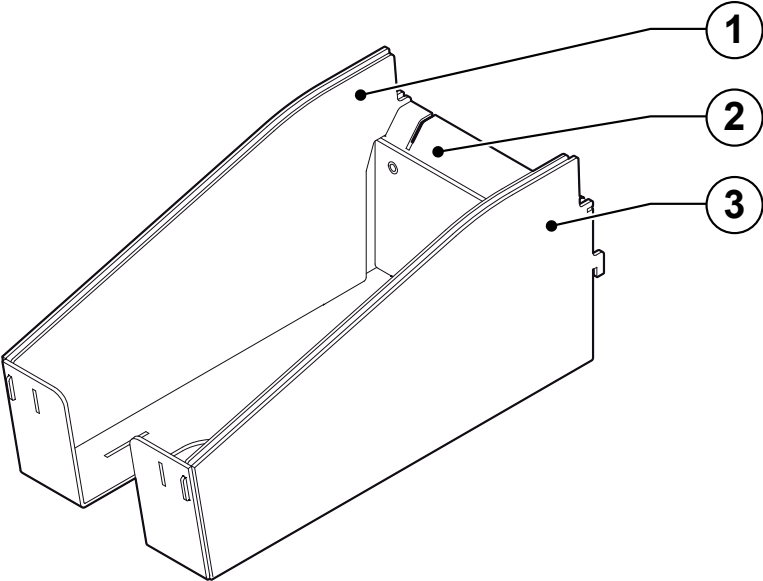
A.1.3 FanFold holder

It is available for the printer a FanFold paper holder (see fig.A.4) to make it possible to use to contain tickets from 54mm to 82.5mm max.

PCXSP-KPM300-FF	FanFold holder
PCXSP-KPM300H-FF-QFC	FanFold holder with near paper end sensor

The kit **PCXSP-KPM300-FF** includes (see fig.A.6):

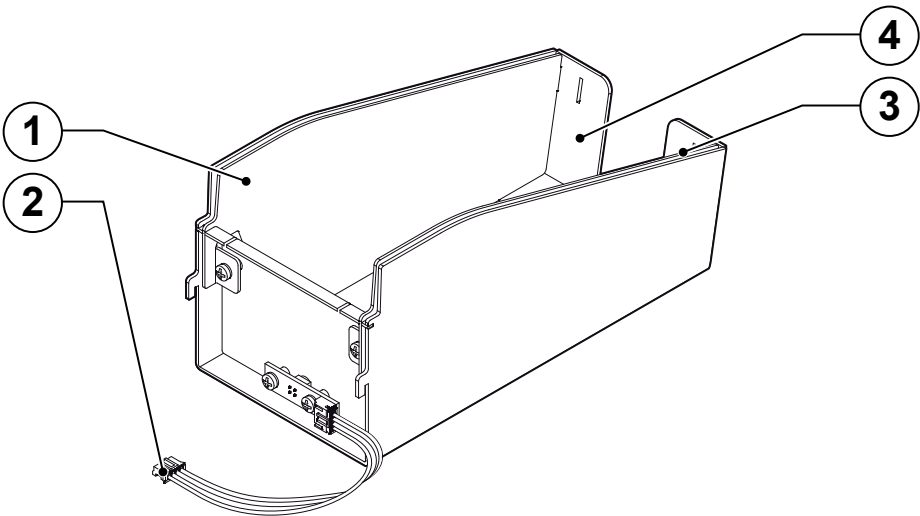
- 1. Right internal width adjustment plate.
- 2. FanFold slot.
- 3. Left internal width adjustment plate.



(Fig.A.6)

The kit **PCXSP-KPM300-FF-QFC** includes (see fig.A.7):

- 1. Left internal width adjustment plate.
- 2. Near paper end sensor wiring.
- 3. Right internal width adjustment plate.
- 4. FanFold slot.

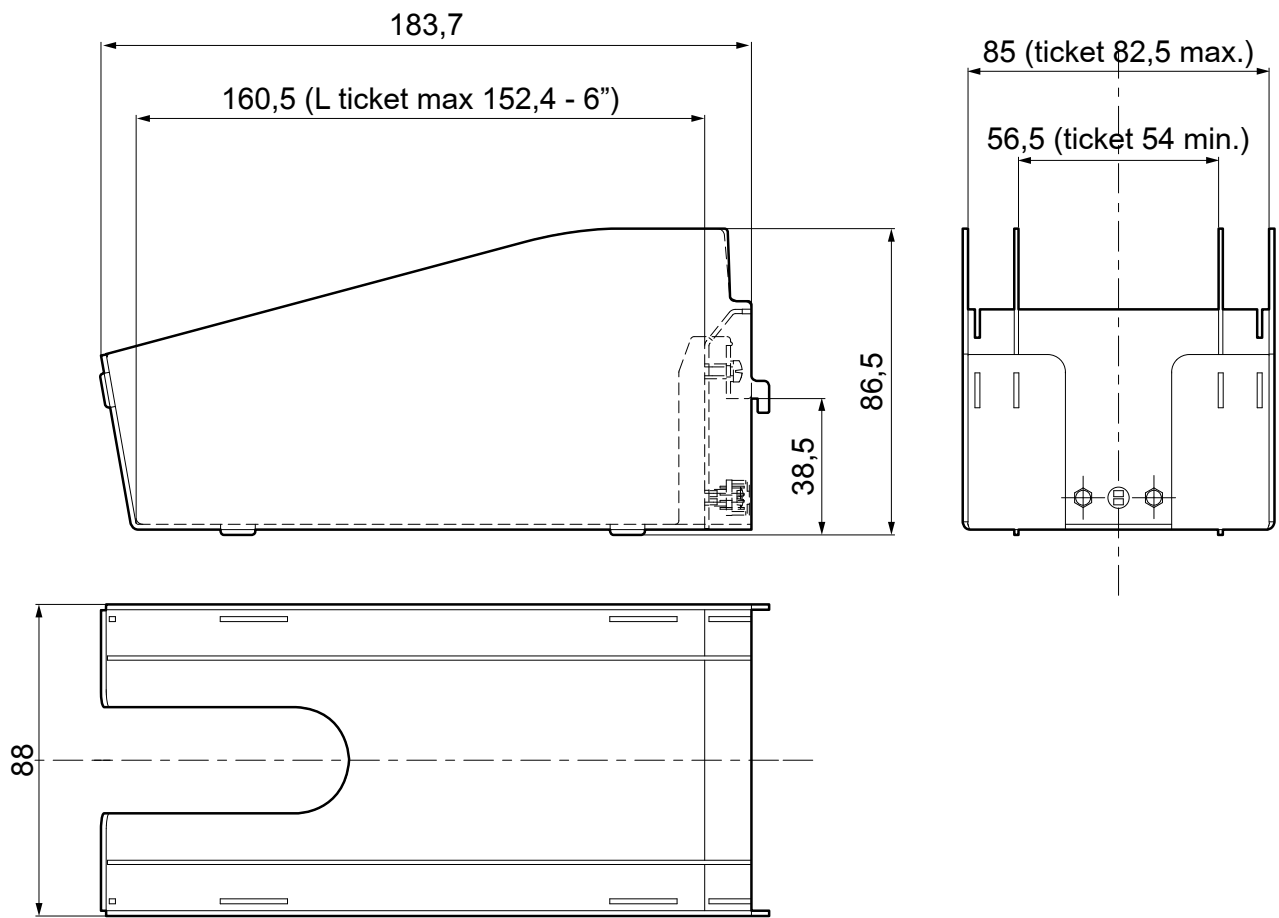


(Fig.A.7)



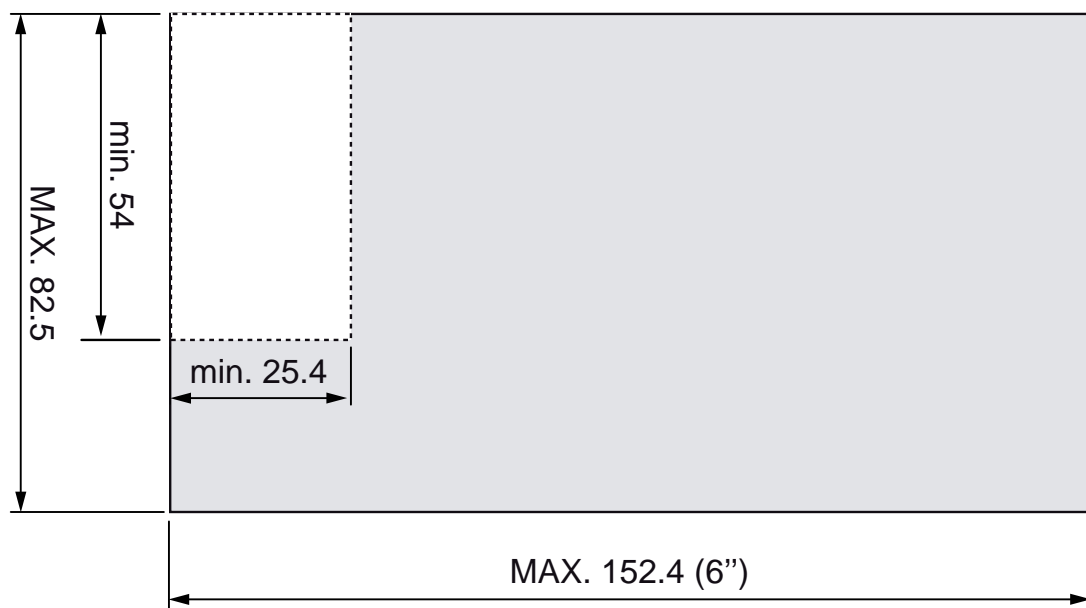
**NOTA:** This kit version must be used only on paper input.

Dimensions:



(Fig.A.8)

Ticket specifications:



(Fig.A.9)

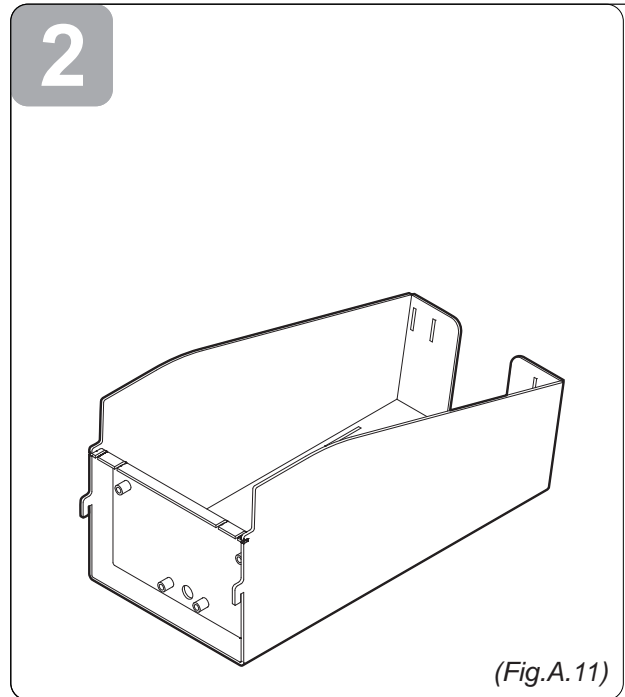
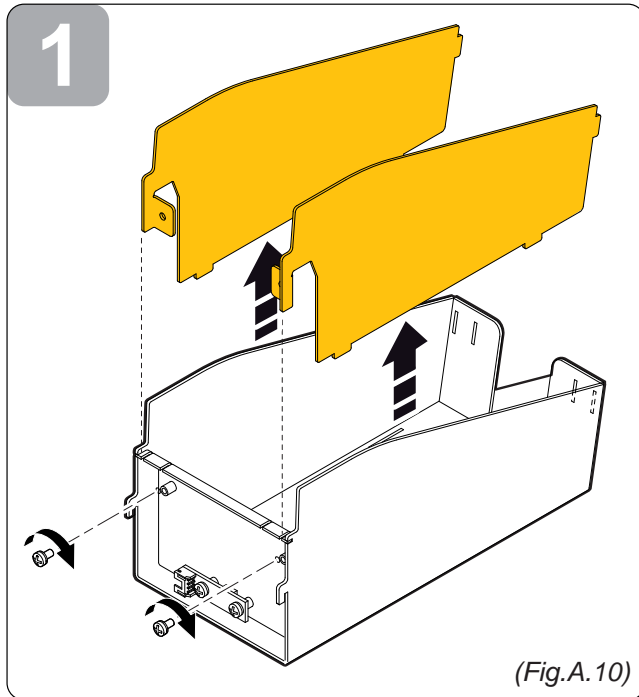
## APPENDIX A - ACCESSORIES AND SPARE PARTS

### Paper instructions

Before load the paper, position the internal width adjustment plates, (right and left), in the appropriate place in relation to ticket width used (see following figures).

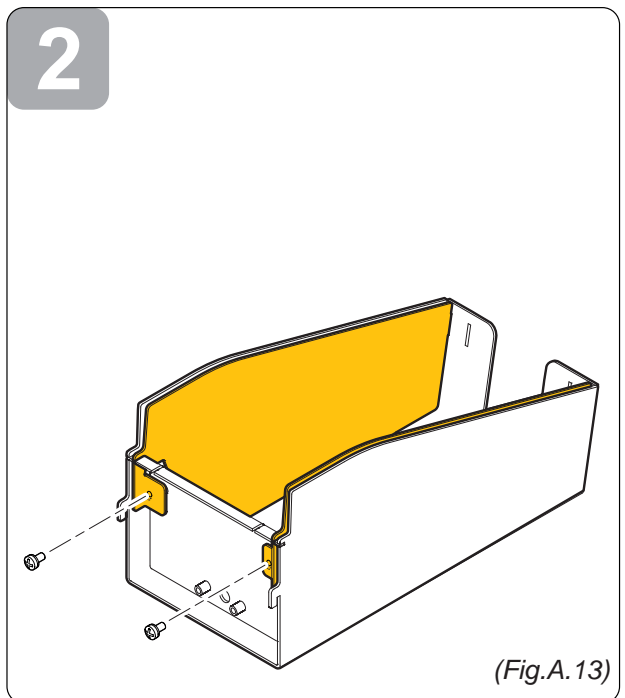
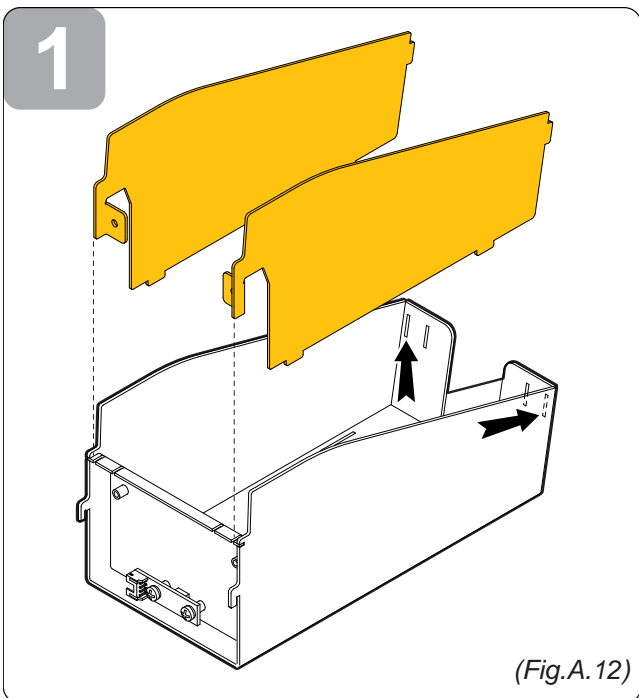
### Using FanFold holder with ticket width from 72 to 82,5 mm :

- Use the FanFold holder without the internal width adjustment plates (see fig.A.11). If necessary remove the internal width adjustment plates by using the two screws located on the back (see fig.A.10).



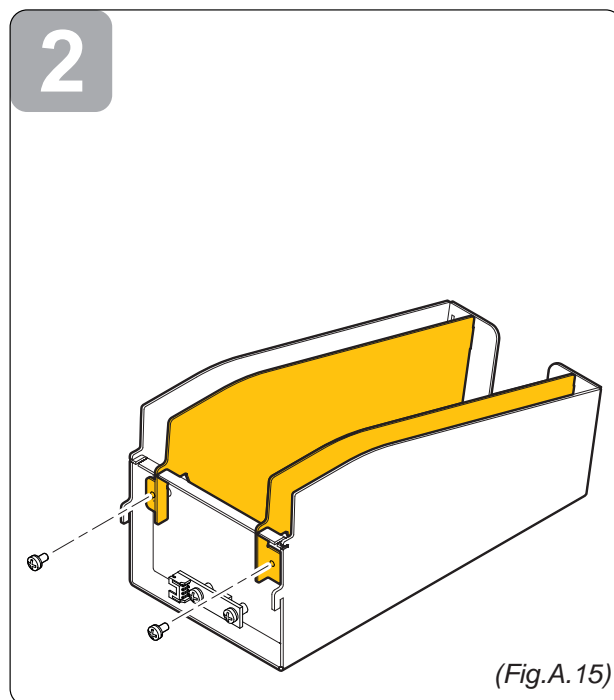
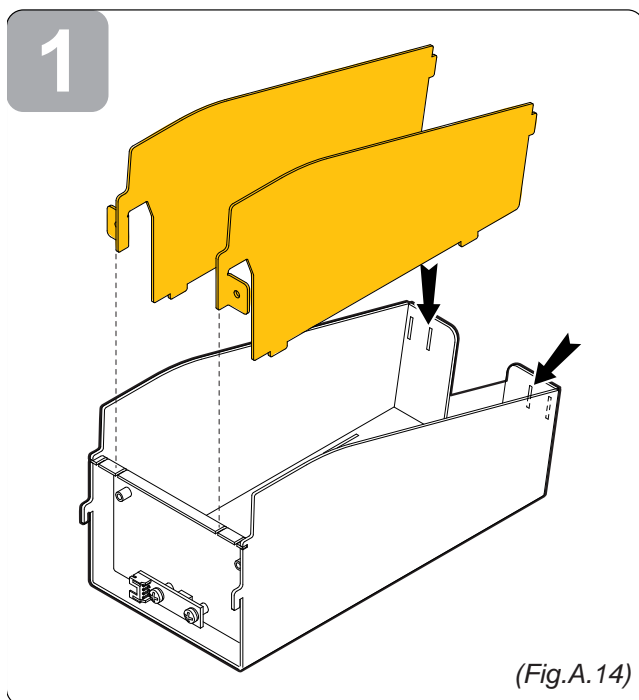
### Using FanFold holder with ticket width from 54 to 72 mm :

- Insert the internal width adjustment plates with the right orientation using the fixing holes indicated from the arrows (see fig.A.12).
- Fix the two screws located on the back (see fig.A.13).



### Using FanFold with a width less than or equal to 54 mm :

- Insert the internal width adjustment plates with the right orientation using the fixing holes indicated from the arrows (see fig.A.14).
- Fix the two screws located on the back (see fig.A.15).



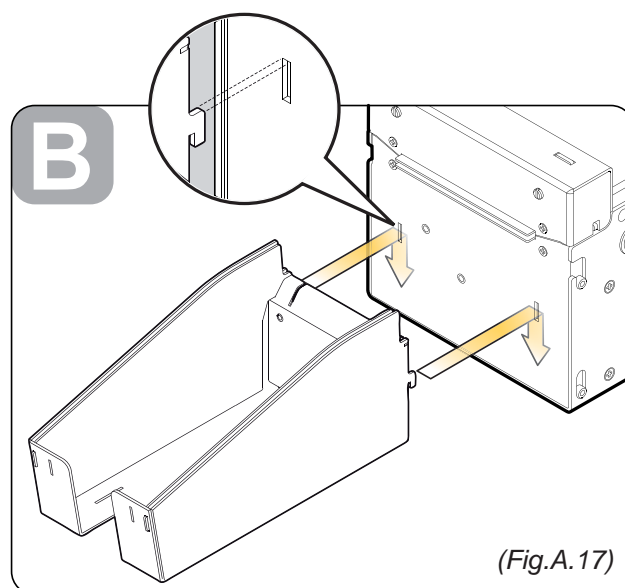
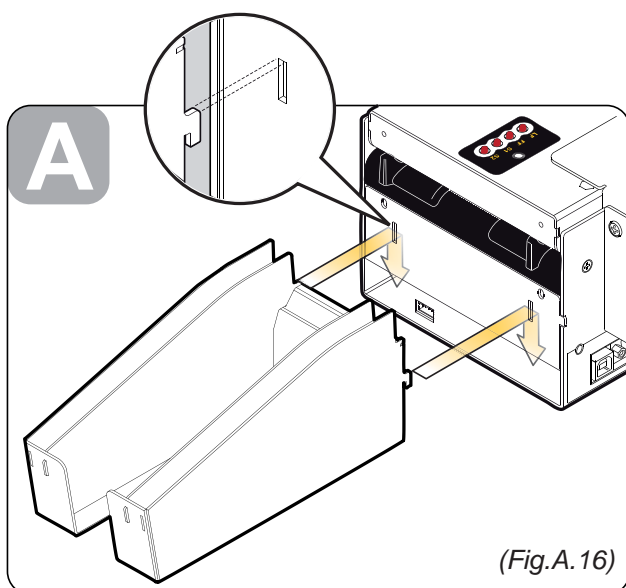
### Assembly instructions

The kit **PCXSP-KPM300-FF** is possible to use both on paper input and paper output:

- Fit in the buttonholes on the printer frame.

**A = paper in** (Fig.A.16)

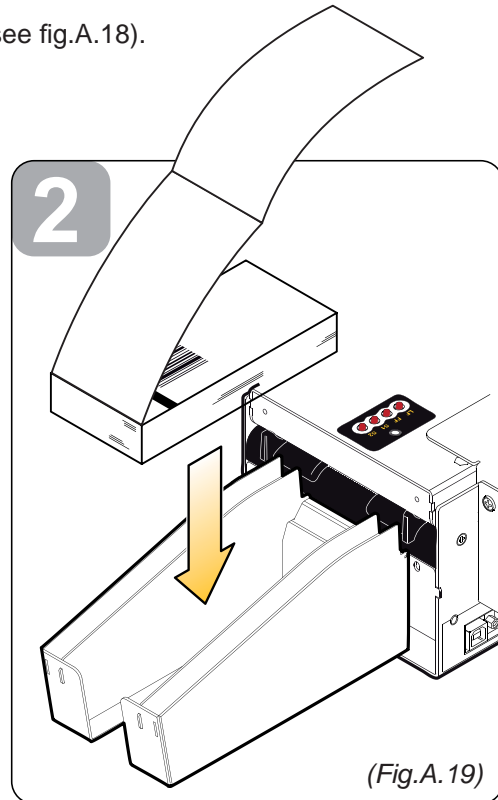
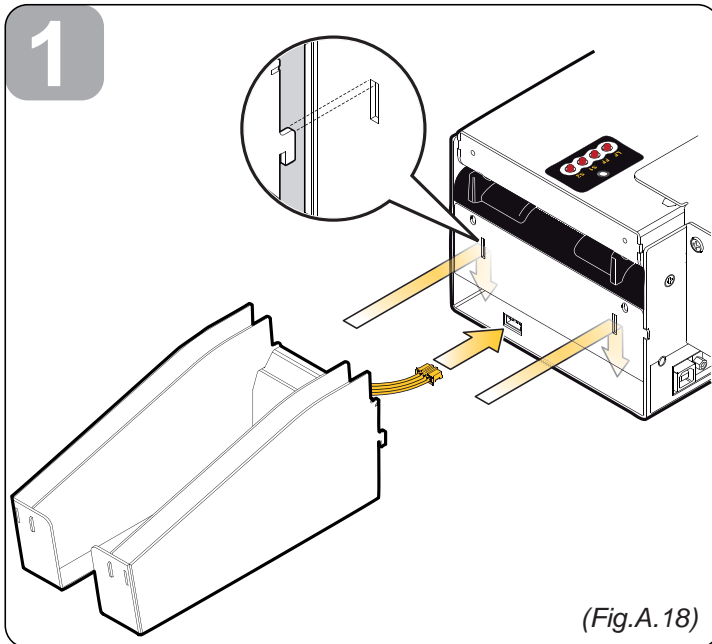
**B = paper out** (Fig.A.17)



## APPENDIX A - ACCESSORIES AND SPARE PARTS

### Only for the PCXSP-KPM300-FF-QFC

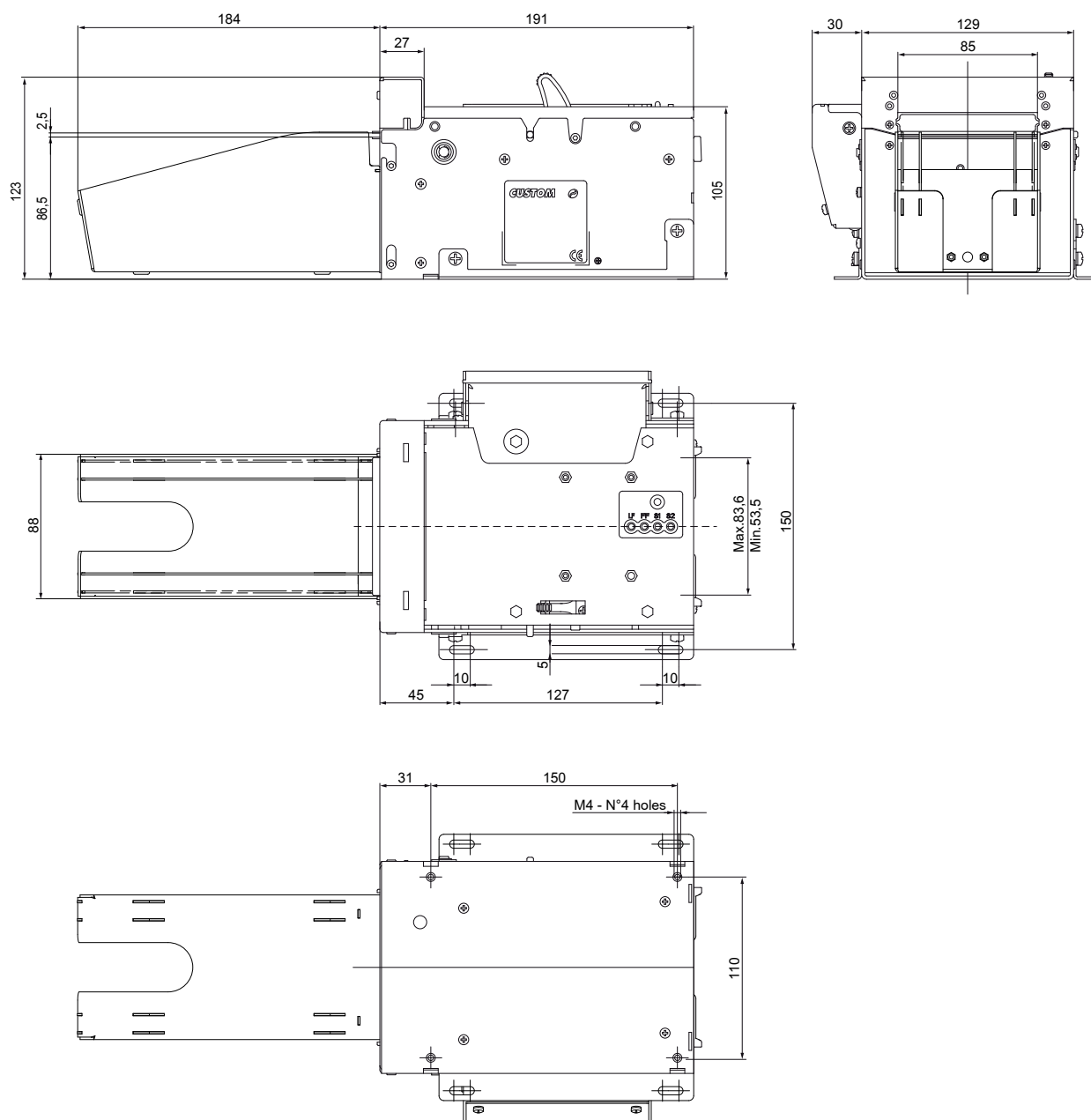
- Connect the near paper end sensor connector with printer (see fig.A.18).
- Fit in the buttonholes on the printer frame (see fig.A.19).



**NOTE:** This kit version must be used only on paper input.  
To load paper referred to the instructions indicated in par.2.7.1 of this manual.

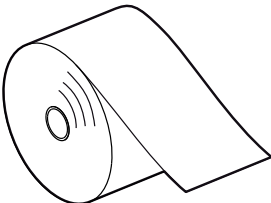
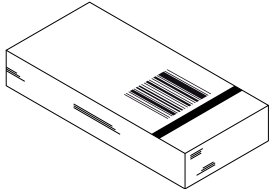


### Printer dimensions with PCXSP-KPM300-FF kit on paper output



(Fig.A.21)

**A.2 SPARE PARTS**

<b>COMPONENT</b>		<b>CODE</b>
	Thermal paper roll 80mm (Øext= 180mm, Øcore= 25mm, 165gr)	<b>RCT80X180-25MM-165GR</b>
	Thermal FANFOLD module 155x165 (255 grams)	<b>RCTFF-B-155-65-255GR-N</b>

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## B. TICKET ALIGNMENT

Paper with an alignment notch can be used in order to handle tickets with pre-printed fields and a fixed length.

To guarantee the alignment it is necessary that the “Notch Alignment” parameter is enabled from the key setup (see setting configuration parameters), that the alignment sensor is calibrated and that the parameters are set. The calibration of the sensor occurs automatically within the printer setup or pressing the S1 key during power-up.

### B.1 ENABLING, CALIBRATING AND SETTING OF PARAMETERS

The printer manages tickets with notch; place the notch on the heat sensitive side or on the non-heat sensitive side of the ticket; in central position or in the side position (see Par.1.6).

To guarantee a correct alignment it is necessary that the “*Notch Position*” parameter is set with the right value because the printer must know which sensor utilize from notch searching.

All printer sensors are reflection sensors: this kind of sensor emits a band of light and detects the quantity of light reflected to it.

The presence of the notch is therefore detected by the amount of light that returns to the sensor, taking into account that the light is reflected by the white paper and absorbed by the black mark.

However is possible to use sensors coupled two by two (transparence sensors), using the sensor’s transmitter with the receiver of the opposite: during this operating condition a beam of light is emitted by a sensor and the quantity of light which reaches the opposite receiver is detected.

The presence of the notch so is detected evaluating the amount of light that arrives to the opposite sensor, considering that the paper doesn’t allow the beam of light to reach the receiver, whereas a gap (like label with gap) or hole, lets the light to reach the receiver.

“Notch Position” parameter	Using mode	Notch position on ticket	Notes
Disabled	N.A.	N.A.	Alignment disabled
Low center	REFLECTION	Central non-thermal side	Using notch printed on ticket to align
Up center	REFLECTION	Central thermal side	Using notch printed on ticket to align
Left Side	REFLECTION	Left lateral non-thermal side	Using notch printed on ticket to align
Right Side	REFLECTION	Right lateral non-thermal side	Using notch printed on ticket to align
Left Center	REFLECTION	Left lateral non-thermal side	Using notch printed on ticket to align
Right Center	REFLECTION	Right lateral non-thermal side	Using notch printed on ticket to align
Tr. center	TRANSPARENCE	Central	Using ticket with gap or label with gap

Calibration of the sensor occurs automatically and consists in adjusting the quantity of light emitted to adapt it to the degree of whiteness of the paper used.

To start self-calibration, the “Notch Position” parameter will be setted in a different value by “Disabled” value from the printer setup (see setting configuration parameters) or pressing the S1 key during power-up.

## APPENDIX B - ALIGNMENT MANAGEMENT

The printer will perform some paper FEEDS, at the end of which it will print the calibration result and the value of the PWM duty-cycle of the alignment sensor driver so that it can be perform an optimal notch detection, for example:

*Autosetting Notch* : **OK**  
*PWM Duty Cycle* : **85.3%**

The “Autosetting Notch” parameter indicates the operating condition of the self-calibration process; OK will appear if it has been successful, but if it has failed the words NOT OK will appear.  
Another parameter that needs to be set is the threshold:

*Notch Threshold..* : 40%

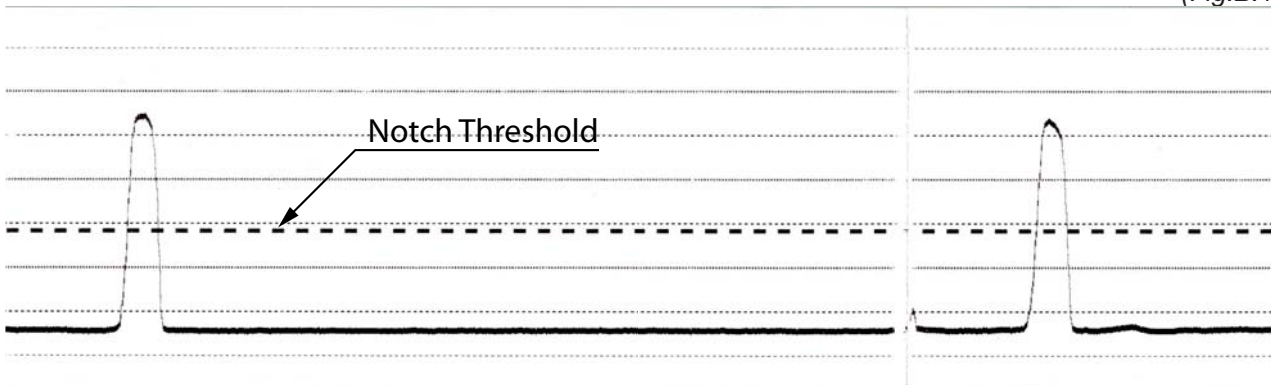
It is used to detect the presence of the notch: if the voltage value read by the sensor exceeds the threshold value set the notch is identified, otherwise the white paper is considered.  
In order to better identify the optimum threshold for the paper being used, a paper characterization function is also available in setup.

*Characterize Paper.* :Yes

By activating this parameter the outgoing voltage of the sensor will be presented in a graphic form as shown in figure B.1 below:

PAPER CHARACTERIZATION

(Fig.B.1)



The graphic shows the outgoing voltage of the sensor and the threshold value previously set. It is clear that by adjusting the threshold value it is possible to find the best position that takes into account the signal peak and the small oscillations around zero.



**NOTE:** The outgoing voltage of the sensor will be presented in a graphic as a percentage value.

**NOTE:** This characterization paper is made using the fan fold module packed with the printer.

The ALIGNMENT POINT is defined as the position inside the ticket that is the desired alignment point. The ALIGNMENT POINT can be defined over the notch or near this one; for this reason, the final parameters to be set in setup are:

Notch Dist. [mm x 10] . : 1  
 Notch Dist. [mm x 1] . : 5  
 Notch Dist. [mm x .1] . : 0

These parameters define the “Notch Distance” that represents the distance from the notch to align or simply identify the notch distance from the ticket margin; in the above example the notch distance is 15 mm.

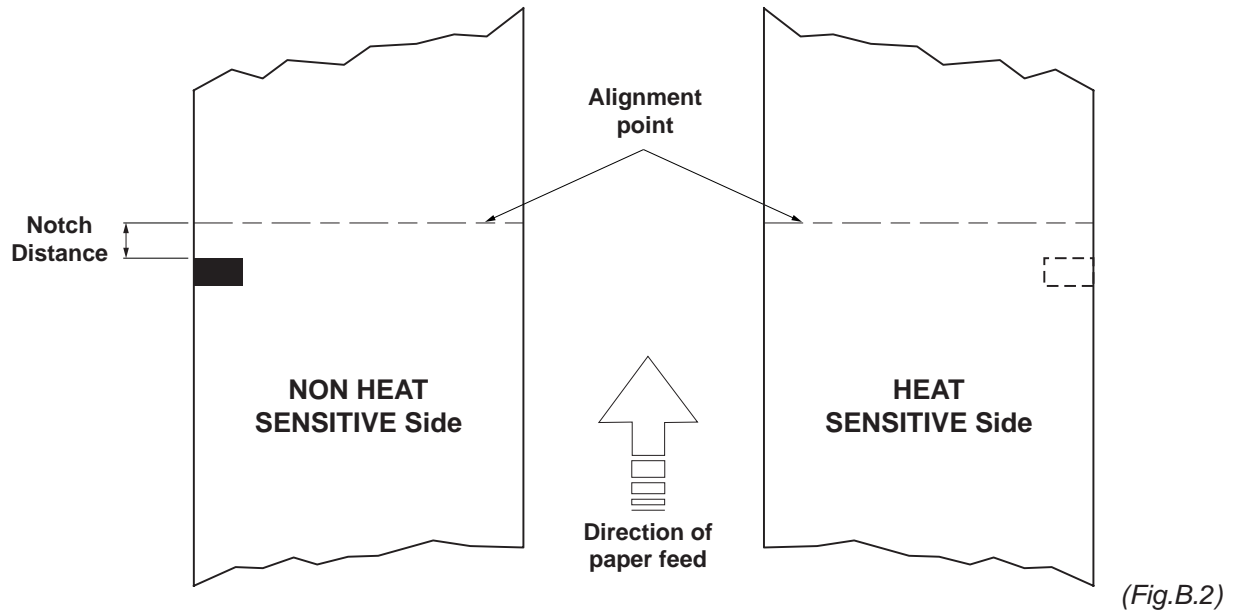
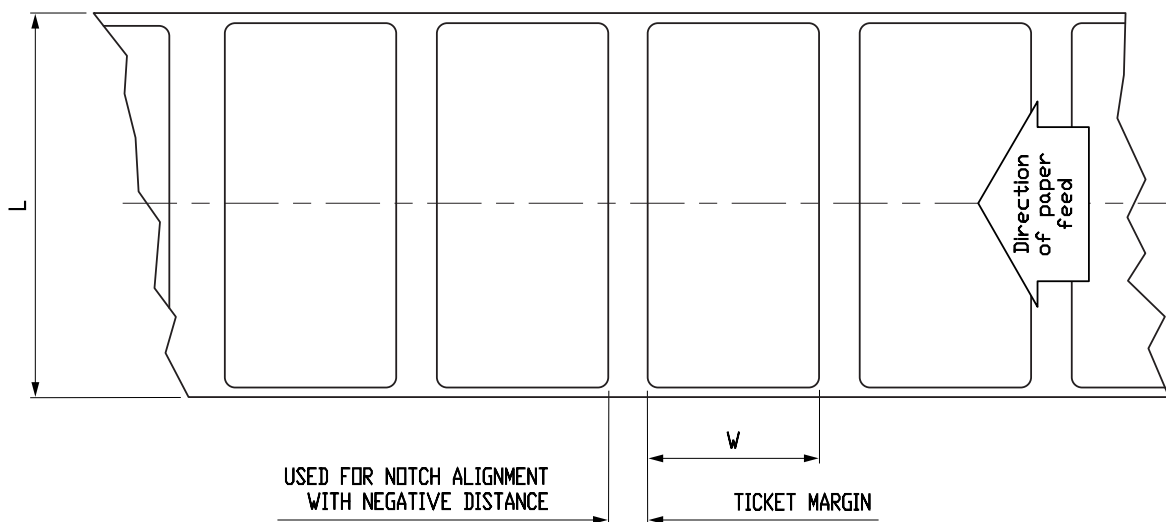


Figure B.2 shows how the “Notch Distance” parameter represents the distance that exists between the notch and the desired alignment point. This parameter can have a minimum value of -5mm (negative value) and a maximum of 67 mm. In reality the maximum distance corresponds to the mechanical distance between the notch sensor and the head, and it is for this reason that higher values are not permitted.

To place the “ALIGNMENT POINT” before the notch, (or rather that the notch is external to the ticket used), setting the “Notch distance” to a negative value (see fig.B.3).



(Fig.B.3)

where

L = represents the paper width used (54 ÷ 82.5 mm);

W = indicates the minimum managed length 25.4 mm (1”).

### B.2 COMMANDS

#### B.2.1 Ticket alignment

The commands to manage ticket alignment are present only in ESC/POS™ emulation; in SVELTA emulation are automatically performed with the printing commands <p> <P> <q> <Q>.

In ESC/POS™ emulation the two alignment available commands are : **\$1D \$F6** and **\$1D \$F8**.

The command **\$1D \$F6** performs an alignment to the print head: the paper is fed through until the print head is at the ticket start.

The command **\$1D \$F8** on the other hand refers to the cutter: the paper is fed through until the cutter is at the set alignment point of the next ticket, so that a subsequent cut will occur precisely at the end of the ticket. For more informations see the Command Reference.

#### B.2.2 Setting the alignment distance

The “Notch Distance” parameter can be changed via the printer setup or by using the command **\$1D \$E7 nH nL**. For further information refer to the command itself.

In SVELTA emulation the parameter used to set the alignment is not the “Notch Distance” modifiable in the printer setup, but it is necessary setted using the command LHT.

#### B.2.3 Examples



**NOTE:** To a better comprehension, in the following figures, the Notch is indicated on the same side of the printing text.

##### Example 1

To print a ticket's sequence witch the cut is made over the notch it's necessary set the notch distance to zero as follows (this setting have effect after the ticket already in the printer):

*{Set Notch Distance}*

`$1D,$E7,$00,$00,`

*{Print text}*

`'TICKET 1',$0A,'FIRST LINE',$0A,'SECOND LINE',$0A`

*{Cut alignment}*

`$1D, $F8,`

*{Cut}*

`ESC,'i',`

...

*{Print text}*

`'TICKET 1',$0A,'FIRST LINE',$0A,'SECOND LINE',$0A`

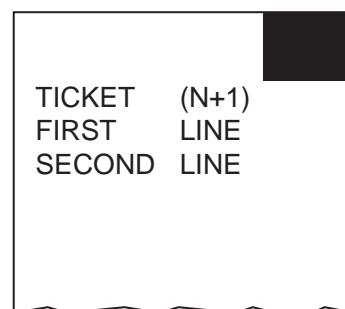
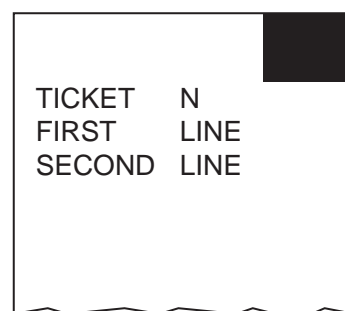
*{Cut alignment}*

`$1D,$F8,`

*{Cut}*

`ESC,'i',`

...



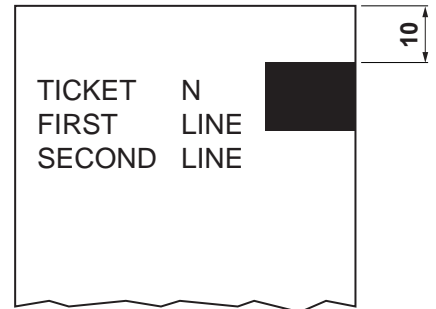
(Fig.B.4)

### Example 2

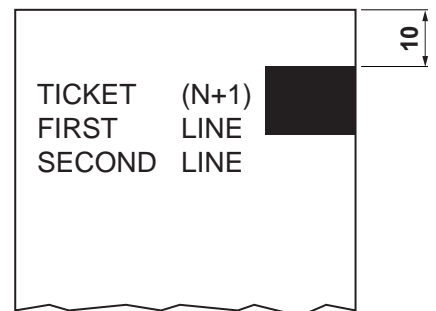
To cut 10mm before the notch the command sequence is (this setting have effect after the ticket already in the printer):

\$1D, \$E7, \$00, \$0A,

```
{Print text}
'TICKET 1',$0A,'FIRST LINE',$0A,'SECOND LINE',$0A
{Cut alignment}
$1D, $F8,
{Cut}
ESC,'i',
...
```



```
{Print text}
'TICKET 1',$0A,'FIRST LINE',$0A,'SECOND LINE',$0A
{Cut alignment}
$1D,$F8,
{Cut}
ESC,'i',
...
```



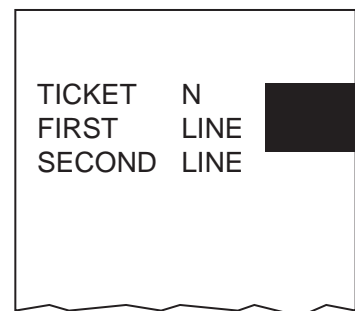
(Fig.B.5)

### Example 3

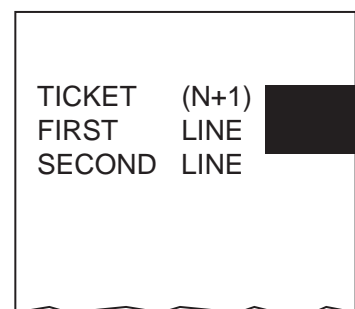
To print over the notch the command sequence is (this setting have effect after the ticket already in the printer):

```
{Set Notch Distance}
$1D,$E7,$00,$00,

{Print head alignment}
$1D, $F6,
{Print text}
'TICKET 1',$0A,'FIRST LINE',$0A,'SECOND LINE',$0A
{Cut}
ESC,'i'
...
```



```
{Print head alignment}
$1D, $F6,
{Print text}
'TICKET N',$0A,'FIRST LINE',$0A,'SECOND LINE',$0A
{Cut}
ESC,'i'
```



(Fig.B.6)

### Example 4

To print 15mm before the notch the command sequence is (this setting have effect after the ticket already in the printer):

{Set Notch Distance}

\$1D,\$E7,\$00,\$0F,

{Print head alignment}

\$1D, \$F6,

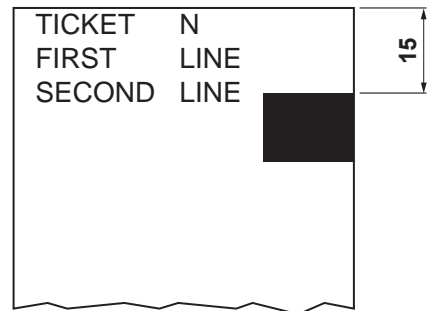
{Print text}

'TICKET 1',\$0A,'FIRST LINE',\$0A,'SECOND LINE',\$0A

{Cut}

ESC,'i'

...



{Print head alignment}

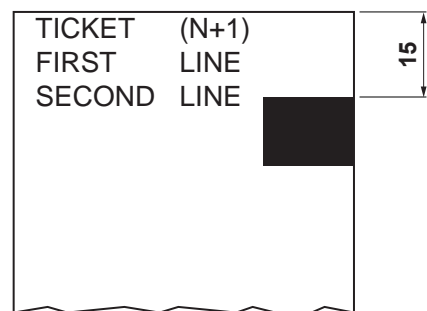
\$1D, \$F6,

{Print text}

'TICKET N',\$0A,'FIRST LINE',\$0A,'SECOND LINE',\$0A

{Cut}

ESC,'i'

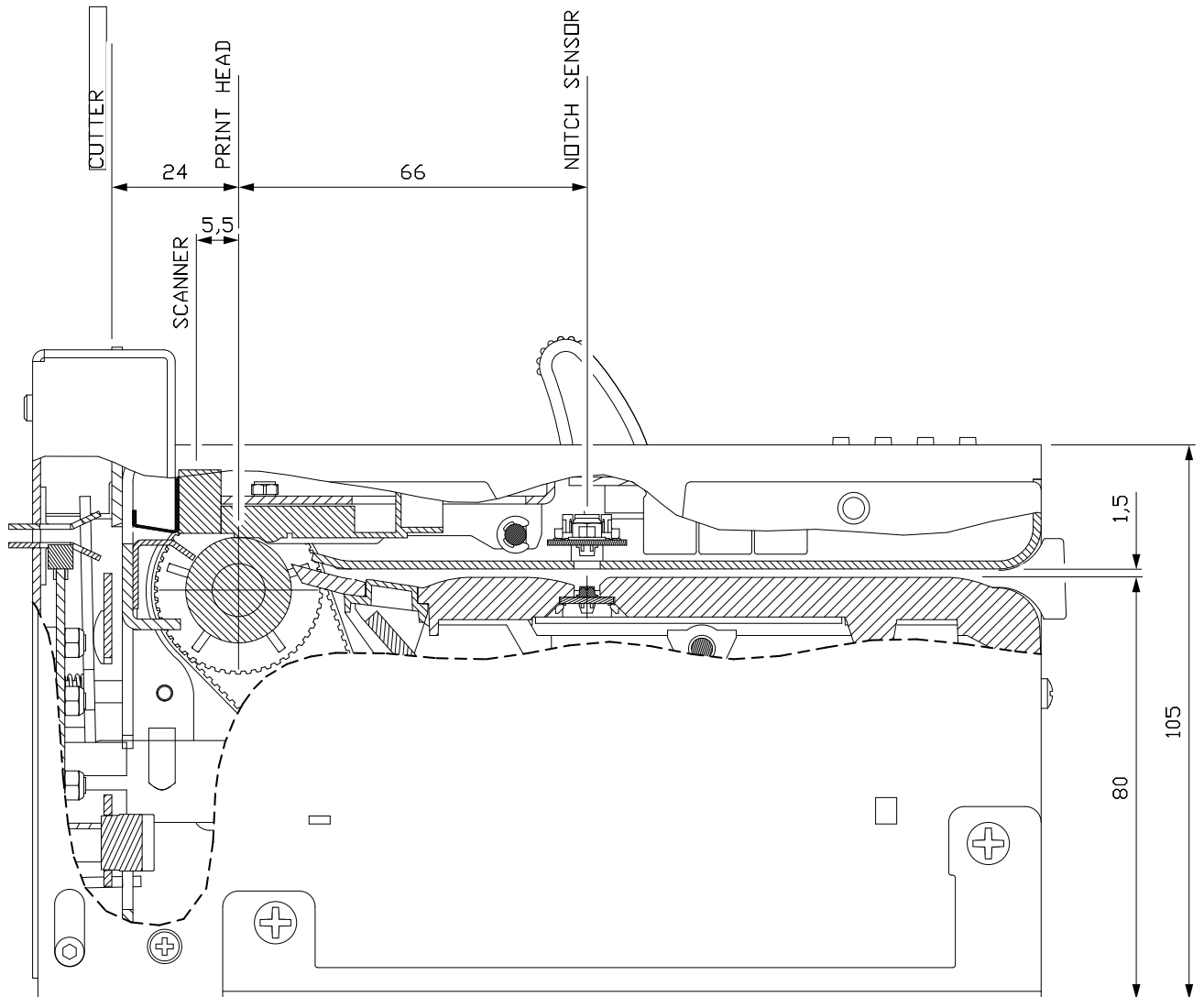


(Fig.B.7)

## B.3 PAPER CHARACTERISTICS

### B.3.1 Position of the notch

Figure B.8 shows a section of the printer and the distances between the head, the cutter and the notch sensor.



(Fig.B.8)

### B.3.2 Dimension of tickets

It is very important to well calibrate the height of the printer area, according to the distance between the two edges of the notch. In order not to miss a notch (a ticket must therefore contain only one notch) the following equation must be used:

$$\text{INTER-NOTCH DISTANCE} > \text{PRINTED AREA HEIGHT}$$

where

INTER-NOTCH DISTANCE = the distance between two notch edges

The picture in figure B.9 shows a sequence of printed tickets aligning each one at the cut. It can be noted that increasing the printed area will result in superimposing what is to be printed at the subsequent notch. The size of the print area can be enlarged until it renders the alignment feed void, but not beyond.

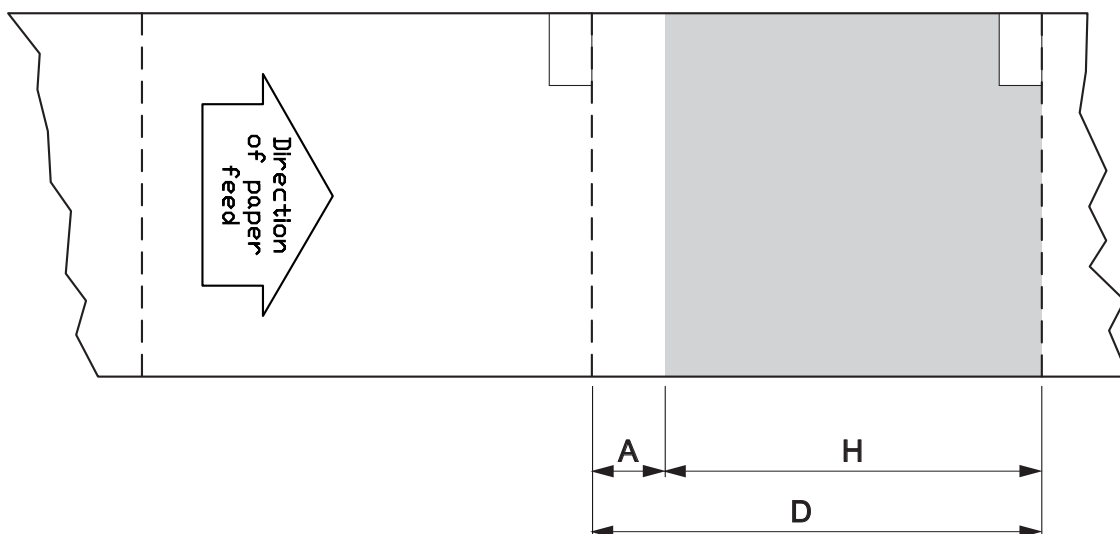
#### LEGEND:

**A** = Alignment feed

**H** = Printing area height

**D** = Inter-notch distance

(Fig.B.9)



**NOTE:** In ESC/POS™ emulation to prevent any jamming, after cut, the paper is not completely recovered, but it remains outside the printing line of 10mm; so it's very important to consider this distance, in this emulation, during the ticket layout definition.

In SVELTA emulation, directly designed for ticketing, on the contrary the paper recovering is not necessary, because after a cut non-printable areas are not produced.

## **B.4 METHODS OF USAGE**

### **B.4.1 Command sequences**

It is possible, when printing sequences of tickets, to primarily identify three different methods of operation that involve the alignment:

- ticket aligned at the cut
- ticket aligned at printing
- combined alignment.

#### **B.4.1.1 Alignment at the cut**

The sequence of commands to be entered when wanting to align a ticket at the cut is as follows:

1. Ticket general setting; formatting of characters, print density, margins etc.
2. Print ticket: Printing of text, logos or any other graphics.
3. Alignment at the cut command: \$1D \$F8.
4. Cut command.

#### **B.4.1.2 Alignment at printing**

Alignment at printing requires the following sequence of commands:

1. Ticket general setting; formatting of characters, print density, margins etc.
2. Print alignment commands: \$1D \$F6.
3. Print ticket: Printing of text, logos or any other graphics.
4. Cut command.

Unlike the previous case, the alignment feed takes place before the start of printing, so as to align the print area in the position required.

#### **B.4.1.3 Combined alignment**

The combined alignment at printing and at the cut is the most alignment used on ticketing applications and requires the following sequence of commands:

1. Ticket general setting; formatting of characters, print density, margins etc.
2. Print alignment commands: \$1D \$F6
3. Print ticket: Printing of text, logos or any other graphics.
4. Alignment at the cut command.
5. Cut command.

This method of operation has favourable, compared with previously methods, because all printed thickets are the same length apart from length of printable area.

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## C. VERIPRINT® SYSTEM

VeriPrint® is a system designed by CUSTOM thanks to which the functions of an image scanner and those of a thermal printing head can be integrated in a single component to be included in systems and terminals for POS, betting/lottery and ticketing application automation. Solutions and benefits with VeriPrint®:

- Automatic storing of the images of all tickets in a local or central database.
- Protection against manipulated tickets.
- In case of doubts on the originality of a ticket presented, possibility of retrieval of the original image.
- Maximum safety, resulting in claim and cost reductions.

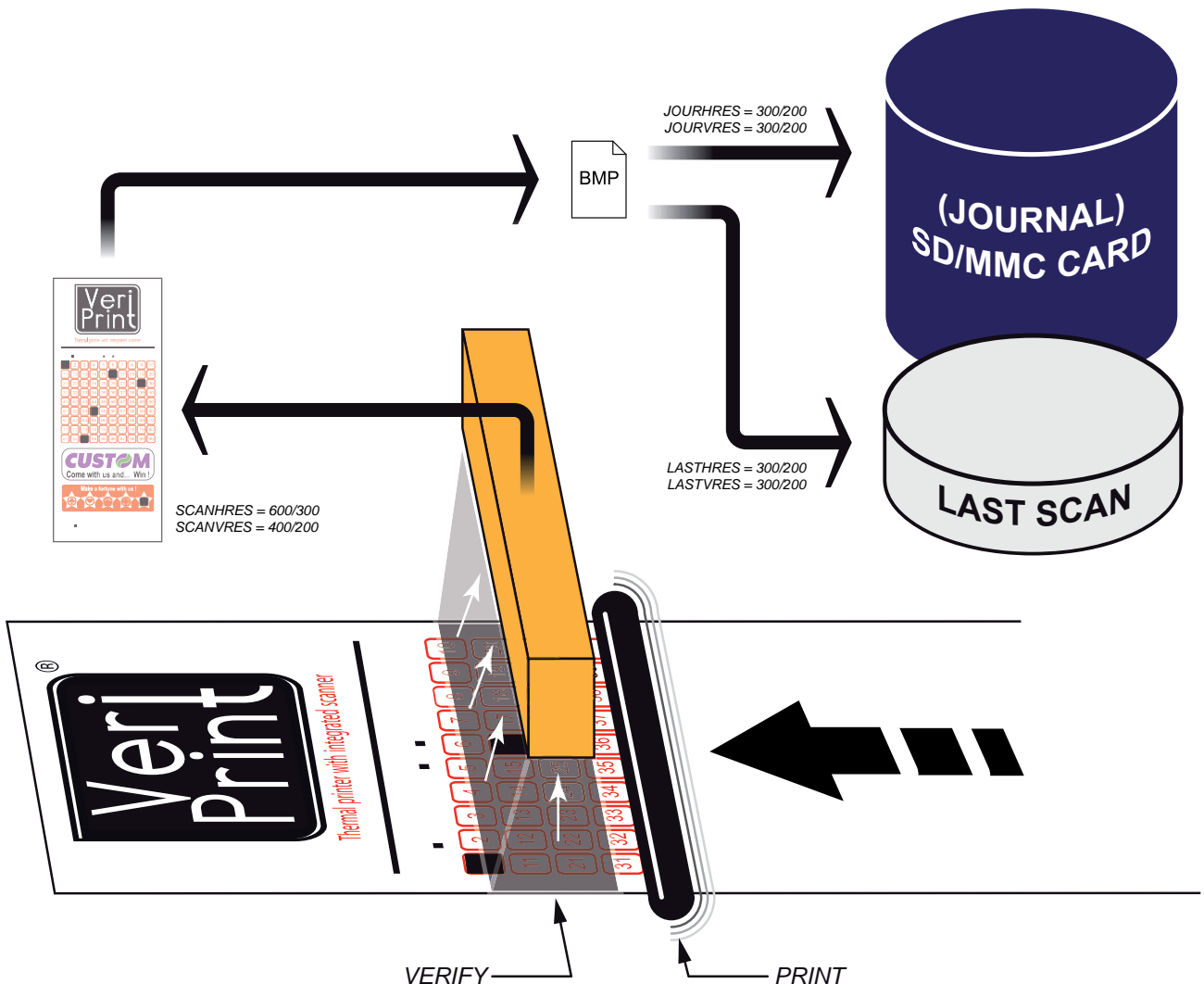


**World patent for a system allowing to print, scan and check the data sent to the printing process.**

### How VeriPrint® works

While printing a ticket, an integrated scanning element captures the image of the ticket automatically and reads any barcode printed (readable formats: CODE 39 and PDF417). The image is stored or sent to a remote host in real time. The captured image represents the actual and “true” look of the ticket as the customer receives it from the operator or a self-service kiosk.

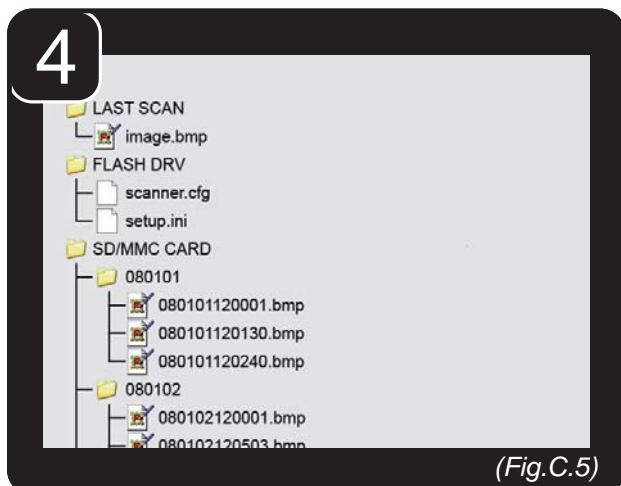
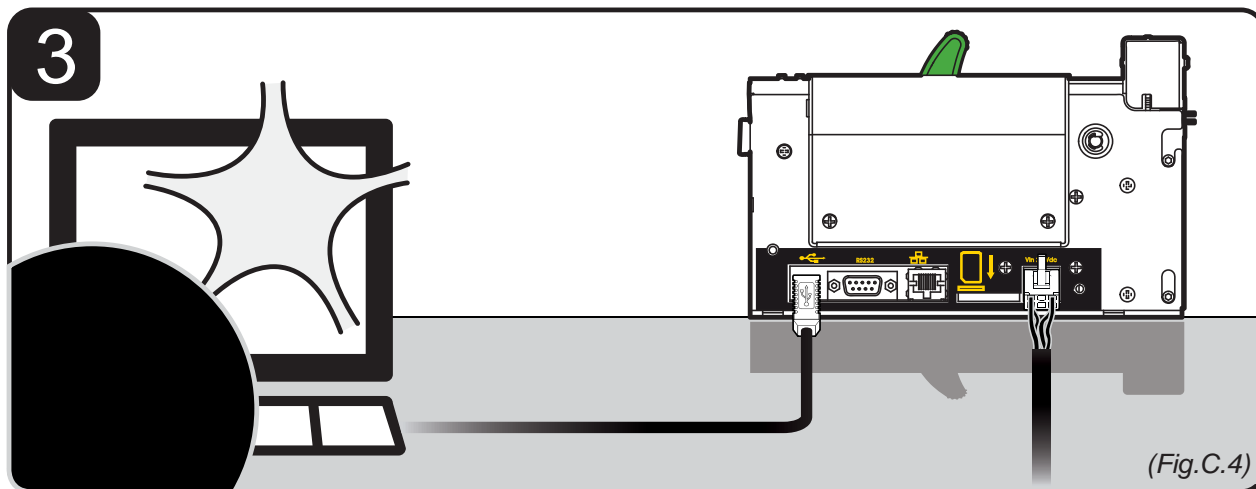
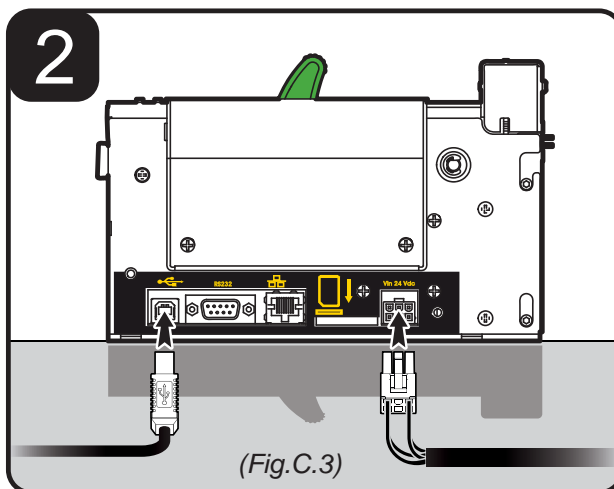
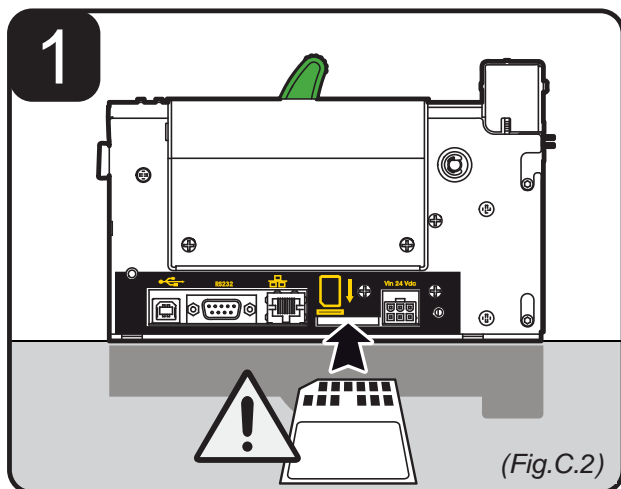
(Fig.C.1)



### C.1 CONNECTION

To use the Veriprint® system and manage the printer contents proceed as follow:

1. Insert the SD/MMC card in its slot (see fig.C.2).
2. Connect the printer with PC using an USB cable. Turn the printer ON by connecting the power supply cable (see fig.C.3).
3. Waiting for the device identification from PC. At the first connection the PC require the printer driver downloadable from our site: [www.custom.biz](http://www.custom.biz) (see fig.C.4).
4. Now it is possible to manage the memories contents of the Veriprint® printer (see fig.C.5).



#### ATTENTION:

To save the printed tickets it is necessary to insert a formatted SD/MMC card in the printer slot. With no SD/MMC card, the printed ticket image will be saved in the LAST SCAN memory only. At the next printing, the new ticket image overwrite the old ticket image with the irrecoverable lost of this one.

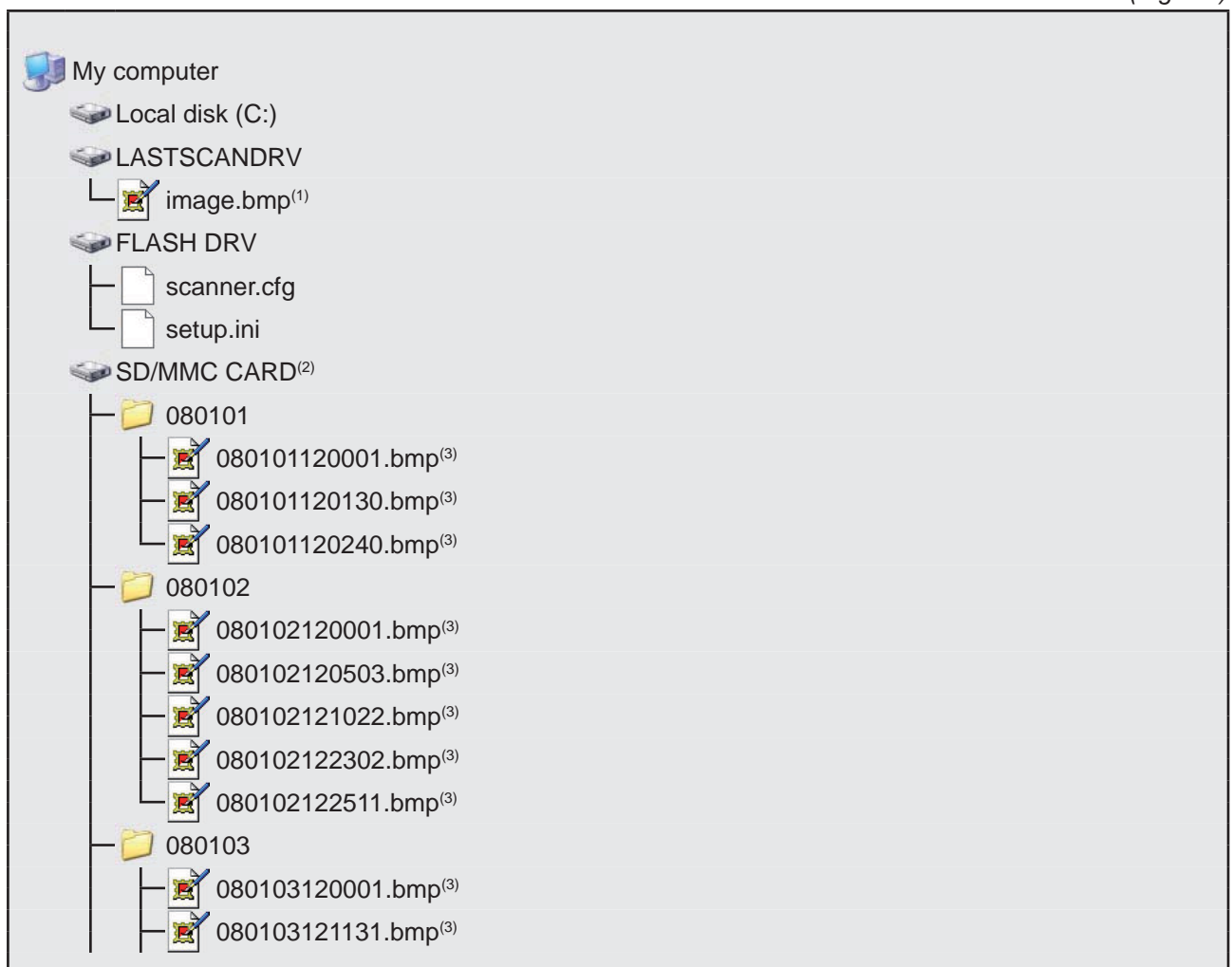
## C.2 INTERNAL STRUCTURE

The Veriprint® printer is equipped with 3 storage units:

<b>FLASH DRV DISK</b>	Is a flash type internal memory containing the configurations files for the printer: <i>scanner.cfg</i> e <i>setup.ini</i> (see paragraph C.4 and C.5)
<b>LAST SCAN DISK</b>	Is a RAM type internal memory containing the image of the last printed ticket. The image file is named <i>image.bmp</i> and it is overwritten at any printing
<b>SD/MMC CARD DISK</b>	Is an SD/MMC type external memory (supplied) containing the images of the printed tickets. The images are organized by date using subfolders in YY/MM/GG format (for example in Fig.C.5, the first subfolder named 080101 contains the images of the ticket printed on 1 <sup>st</sup> January 2008). Each image is saved in bmp format and named as set in <i>scanner.cfg</i> file

When the printer is connected with the PC (using an USB cable) this one detects the storage units as 3 removable disks (see Fig.C.6):

(Fig.C.6)



**NOTA<sup>(1)</sup>** The image name of the last printed ticket depends on the parameter LASTFILENAME in *scanner.cfg* file.

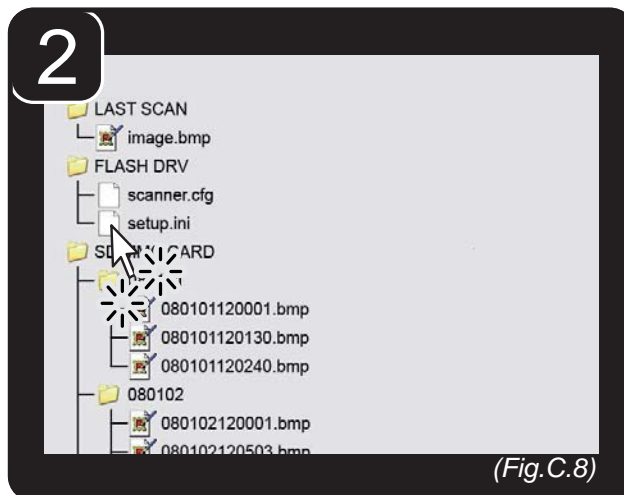
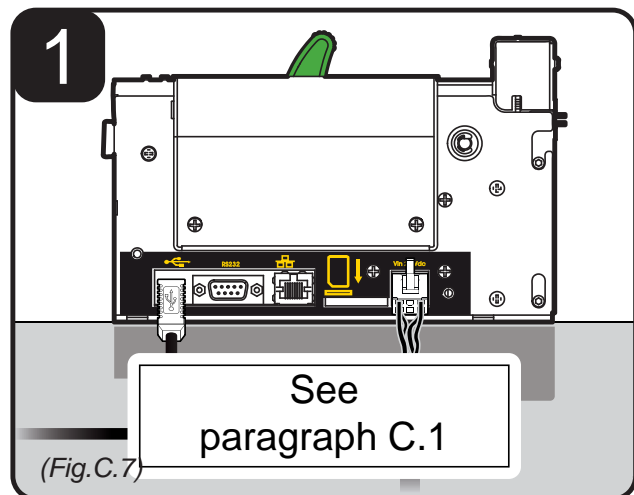
**NOTA<sup>(2)</sup>** The SD/MMC CARD contents depends on printer using.

**NOTA<sup>(3)</sup>** The images names of the printed tickets depend on the parameter JOURFILENAME in *scanner.cfg* file

## C.3 SCANNER CONFIGURATION

To set the functioning parameters for ticket scanning proceed as follow:

1. Connect the Veriprint® printer following the procedure described in paragraph C.1:
2. Open FLASHDRV and double click on *scanner.cfg* file.



The parameters affected during the configuration are:

<b>SCANHRES<sup>(1)</sup>:</b>	600 <sup>D</sup> , 300	<i>scanner horizontal resolution</i>
<b>SCANVRES<sup>(1)</sup>:</b>	400 <sup>D</sup> , 200	<i>scanner vertical resolution</i>
<b>SAVETIMEMODE:</b>	0, 1, 2 <sup>D</sup>	<i>save time mode:</i> 0 = after cut 1 = after motor off 2 = after cut or motor off
<b>BWTHRESHOLD:</b>	0 ÷ 255 (150 <sup>D</sup> )	<i>black/white threshold</i>
<b>LASTHRES:</b>	SCANHRES, 300 <sup>D</sup> , 200	<i>bmp horizontal resolution saved in LASTSCAN disk</i>
<b>LASTVRES:</b>	SCANVRES, 300 <sup>D</sup> , 200	<i>bmp vertical resolution saved in LASTSCAN disk</i>
<b>LASTBITPIX:</b>	8, 4 <sup>D</sup> , 1	<i>bit/pixel of LAST IMAGE</i>
<b>LASTFILENAME:</b>	'image' <sup>D</sup> , 0, 1, 2	<i>bmp name saved in LASTSCAN disk:</i> 'image' = <name of file without extension, max 12 chars> 0 = no file 1 = DDMMYYhhmmss.bmp 2 = YYMMDDhhmmss.bmp
<b>LASTCROP:</b>	0 <sup>D</sup> , 1	<i>crop of bmp saved in LASTSCAN disk:</i> 0 = no crop 1 = crop
<b>JOURHRES:</b>	SCANHRES, 300, 200 <sup>D</sup>	<i>bmp horizontal resolution saved in SD/MMC CARD</i>
<b>JOURVRES:</b>	SCANVRES, 300, 200 <sup>D</sup>	<i>bmp vertical resolution saved in SD/MMC CARD</i>
<b>JOURBITPIX:</b>	8, 4, 1 <sup>D</sup>	<i>bit/pixel of bmp saved in SD/MMC CARD</i>

<b>JOURFILENAME:</b> 'image' <sup>D</sup> , 0, 1, 2	<i>bmp name saved in SD/MMC CARD:</i> 'image' = <name of file without extension, max 12 chars> 0 = no file 1 = DDMMYYhhmmss.bmp 2 = YYMMDDhhmmss.bmp
<b>JOURFULLMODE:</b> 0 <sup>D</sup> , 1, 2	<i>SD/MMC CARD full behaviour:</i> 0 = erase oldest folders 1 = file not saved 2 = stop print
<b>JOURCROP:</b> 0, 1 <sup>D</sup>	<i>crop of bmp saved in SD/MMC CARD:</i> 0 = no crop 1 = crop

**ATTENTION:** To obtain the best results is recommended to use max resolution for scanning and saving the image.

**GENERAL NOTES:** The parameters marked with the symbol D are the default values. Settings remain active even after the printer has been turned off.

**NOTE<sup>(1)</sup>** The SCANHRES and SCANVRES parameters define indirectly the maximum scanning length (see Tab.C.1).

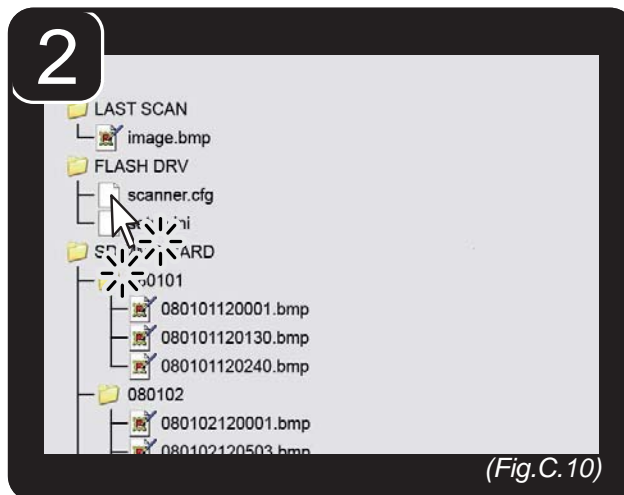
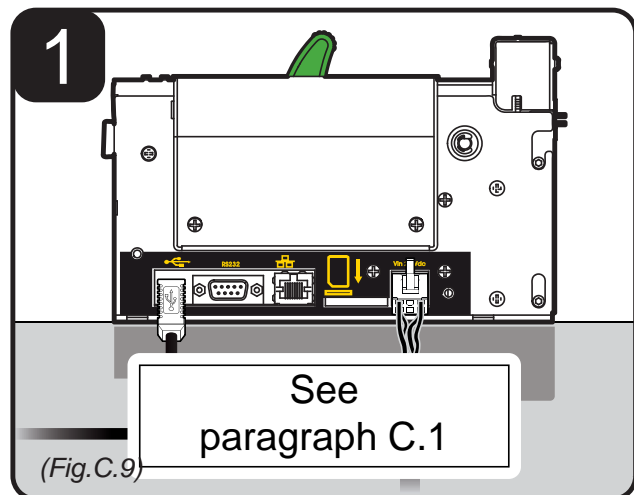
SCANHRES	SCANVRES	MAX SCANNING LENGTH
600	400	275 mm
600	200	550 mm
300	400	550 mm
300	200	1100 mm

(Tab.C.1)

## C.4 PRINTER CONFIGURATION

To set the functioning parameters for printing proceed as follow:

1. Connect the Veriprint® printer following the procedure described in paragraph C.1:
2. Open FLASHDRV and double click on *setup.ini* file.



The parameters affected during the configuration are:

[PRINT]

<b>Printer Emulation:</b>	0, 1 <sup>D</sup>	0 = ESC/POS™ 1 = SVELTA		
<b>Print Mode:</b>	0 <sup>D</sup> , 1	0 = Normal 1 = Reverse		
<b>Autofeed:</b>	0 <sup>D</sup> , 1	0 = CR disabled 1 = CR enabled		
<b>Chars / inch:</b>	0, 1 <sup>D</sup>	0 = A=11 B=15 cpi 1 = A=15 B=20 cpi		
<b>Speed / Quality:</b>	0, 1, 2 <sup>D</sup>	0 = High Quality 1 = Normal 2 = High Speed		
<b>Paper Width:</b>	0, 1, 2, 3, 4, 5, 6, 7, 8 9, 10, 11, 12, 13, 14 <sup>D</sup>	0 = 54 mm 1 = 56 mm 2 = 58 mm 3 = 60 mm 4 = 62 mm	5 = 64 mm 6 = 66 mm 7 = 68 mm 8 = 70 mm 9 = 72 mm	10 = 74 mm 11 = 76 mm 12 = 78 mm 13 = 80 mm 14 = 82 mm
<b>Paper Threshold:</b>	0, 1, 2, 3 <sup>D</sup> , 4, 5, 6	0 = 30 % 1 = 40 % 2 = 50 %	3 = 60 % 4 = 70 % 5 = 80 %	6 = 90 %
<b>Notch Position:</b>	0 <sup>D</sup> , 1, 2, 3, 4, 5	0 = Disabled 1 = Low Side 2 = Up Center	3 = Left Side 4 = Right Side 5 = Left Center	6 = Right Center 7 = Tr. Center

<b>Notch Threshold:</b>	0, 1 <sup>D</sup> , 2, 3, 4, 5, 6	0 = 30 % 1 = 40 % 2 = 50 %	3 = 60 % 4 = 70 % 5 = 80 %	6 = 90 %
<b>Notch Distance [mm]:</b> +0.0				
<b>PaperEnd Buffer Clear:</b>	0, 1 <sup>D</sup>	0 = Disabled 1 = Enabled		
<b>Binary Log File:</b>	0 <sup>D</sup> , 1	0 = Disabled 1 = Enabled		
<b>Barcode Reader Type:</b>	0 <sup>D</sup> , 1, 2	0 = None 1 = MR008	2 = CX002	
<b>Ticket Locking:</b>	0 <sup>D</sup> , 1	0 = Disabled 1 = Enabled		
<b>Print Density:</b>	0, 1, 2, 3, 4 <sup>D</sup> , 5, 6, 7, 8	0 = - 50 % 1 = - 37 % 2 = - 25 %	3 = - 12 % 4 = 0 % 5 = + 12 %	6 = + 25 % 7 = + 37 % 8 = + 50 %

**[INTERFACE]**

<b>RS232 Baud Rate:</b>	1, 2, 3, 4, 5, 6, 7, 8 <sup>D</sup>	1 = 1200 bps 2 = 2400 bps 3 = 4800 bps	4 = 9600 bps 5 = 19200 bps 6 = 38400 bps	7 = 57600 bps 8 = 115200 bps
<b>RS232 Data Length:</b>	0 <sup>D</sup> , 1	0 = 8 bits/chr 1 = 7 bits/chr		
<b>RS232 Parity:</b>	0 <sup>D</sup> , 1, 2	0 = None 1 = Even 2 = Odd		
<b>RS232 Handshaking:</b>	0 <sup>D</sup> , 1	0 = Xon/Xoff 1 = Hardware		
<b>Busy Condition:</b>	0 <sup>D</sup> , 1	0 = RxFull 1 = OffLine/RxFull		
<b>USB Address Number:</b>	0 <sup>D</sup> , 1, 2, 3, 4, 5, 6, 7, 8, 9	0 = 0 1 = 1 2 = 2 3 = 3	4 = 4 5 = 5 6 = 6 7 = 7	8 = 8 9 = 9

**[SVELTA]**
**Ticket X Dimension**
**Ticket Y Dimension**
**Notch Distance**
**Notch Width**
**Barcode Timeout**
**Ticket Offset X**
**Ticket Offset Y**

## APPENDIX C - VERIPRINT® SYSTEM

---

### [NETWORK]

---

<b>DHCP Client:</b>	0 <sup>D</sup> , 1	0 = Disabled 1 = Enabled
---------------------	--------------------	-----------------------------

---

<b>FTP Server:</b>	0 <sup>D</sup> , 1	0 = Disabled 1 = Enabled
--------------------	--------------------	-----------------------------

---

**IP Address**

---

**Subnet Mask**

---

**Default Gateway**

---

**Domain Name System**

---

**TCP Printer Port**

---

**MAC Address** *(Solo lettura)*

---

**GENERAL NOTES:** The parameters marked with the symbol D are the default values.  
Settings remain active even after the printer has been turned off.

## D. ADVANCED FUNCTIONS

### D.1 PRINTER SET-UP

#### D.1.1 FTP Server activation

One of the Ethernet parameters related to printer configuration (see par.2.3.1), is “FTP Server” (see fig.D.1). The allowed values for “FTP Server” parameter are Disabled (default value) and Enabled. It allows to disable or enable the files sharing from FTP Server connection between printer and a computer.

DHCP Client.....	: Disabled
FTP Server .....	: Enabled
IP Address.....	: 192. 168. 10. 37
Subnet Mask .....	: 255. 255. 240. 0
Default Gateway.....	: 192. 168. 1. 23

(Fig.D.1)



**NOTE:** To enter the printer set-up mode and configure parameters value, follow the instruction of par.2.3.

### D.2 EMBEDDED WEB SERVER

KPM300 VERIPRINT® is equipped with an Embedded Web Server that allows to execute some operations on printers, through a clear web interface, including:

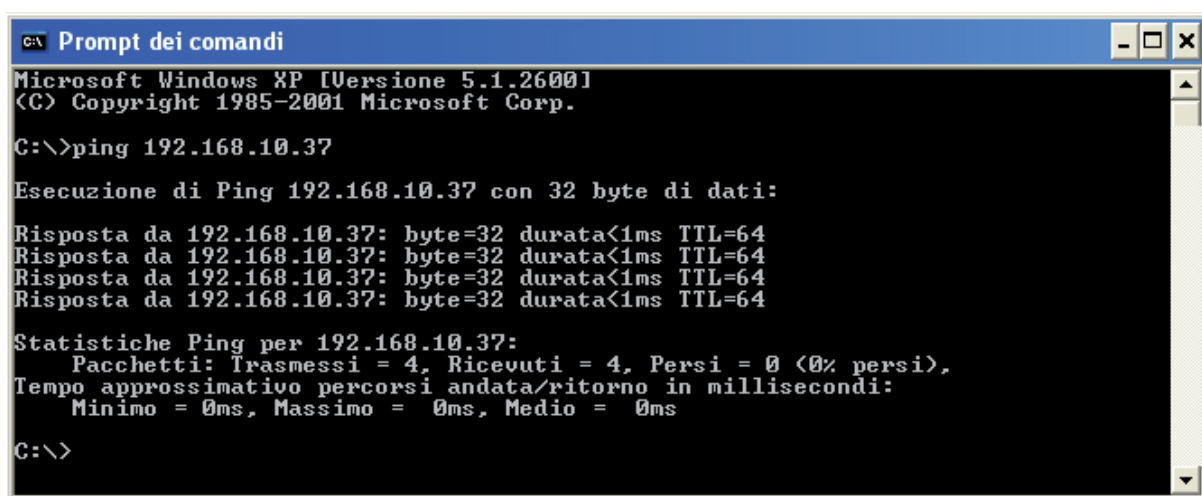
- monitoring the printer status;
- setting operating parameters;
- configuring network settings;
- configuring the email service to make diagnostics and maintenance operations easier;
- see scans of printed tickets;
- download printing drivers.

### D.2.1 Connection check

Before entering in the Embedded Web Server, check that:

- the printer is connected and turned on;
- the printer has a network connection based on the IP protocol;
- the following door are opened (if a Firewall is present on computer): 9100 (or differently set up). 15000, 15001, 15002;
- have a Web browser on the computer;
- the printer is connected to the network and its IP address and its Subnet Mask are set up in a correct way. To check the setting of this parameters, open a new terminal window and type “ping” on the command bar followed by the IP address of the printer. The picture C.3 shows an example of a positive result after the “ping” command. Otherwise, if connection isn’t possible, to its IP address, will appear an overdue request mistake.

Example:       ping    192.168.10.37



```
C:\> Prompt dei comandi
Microsoft Windows XP [Versione 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\>ping 192.168.10.37

Esecuzione di Ping 192.168.10.37 con 32 byte di dati:

Risposta da 192.168.10.37: byte=32 durata<1ms TTL=64
Risposta da 192.168.10.37: byte=32 durata<1ms TTL=64
Risposta da 192.168.10.37: byte=32 durata<1ms TTL=64
Risposta da 192.168.10.37: byte=32 durata<1ms TTL=64

Statistiche Ping per 192.168.10.37:
    Pacchetti: Trasmessi = 4, Ricevuti = 4, Persi = 0 (0% persi),
Tempo approssimativo percorsi andata/ritorno in millisecondi:
    Minimo = 0ms, Massimo = 0ms, Medio = 0ms

C:\>
```

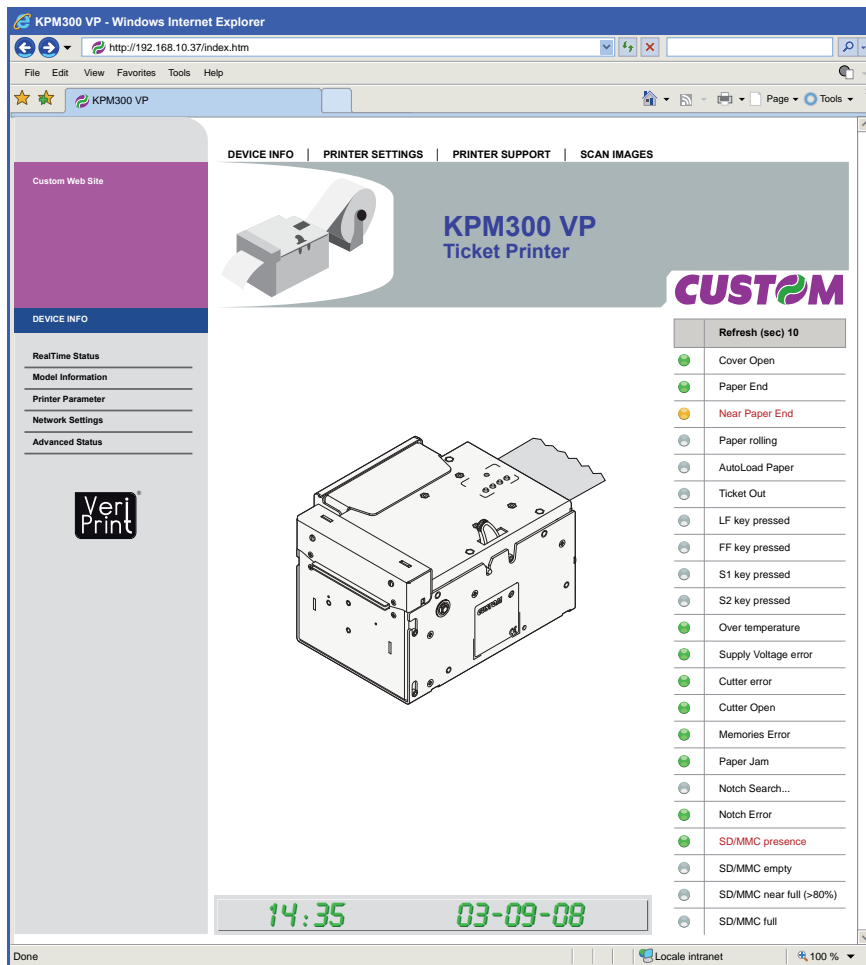
(Fig.D.2)

### D.2.2 Embedded Web Server access

To enter the Embedded Web Server, type the IP address assigned to the printer into Web browser. For example, if IP address of the printer is 192.168.10.37, type in the Web browser:

http://192.168.10.37

On the screen will appear the internal default page that corresponds to the section “Device Info” (vedi fig.D.3)



(Fig.D.3)



**NOTE:** To know the IP address of the printer, print the Set-up report of the printer (see par.2.3.1) or use "Locator" (see par.D.3).

The Embedded Web Server has 4 sections present in every Web page as horizontal command bar in the upper part of the page (see fig.D.3). These sections are:

- Device Info
- Printer Settings
- Printer Support
- Scan Image

To enter some sections and some configuration services, it is required the identification of the user and password. To make registration and to obtain the access to the restricted areas, when it is required insert the user name and the password as indicated in the following table:

User Name	Custom
Password	AlwaysOn

(Tab.D.1)



**NOTE:** Respect capital and small letters as indicated in table C.1.

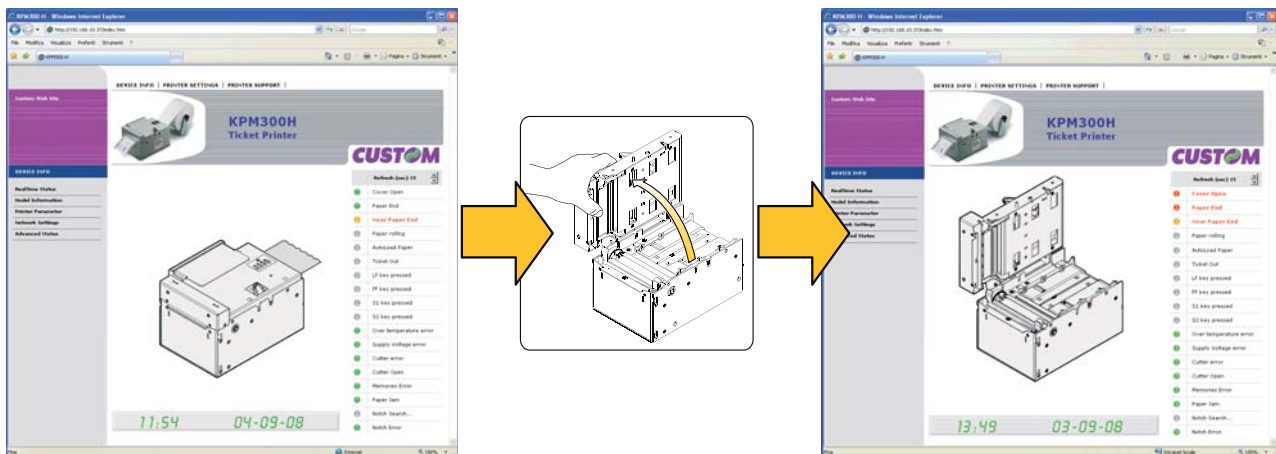
### D.2.3 Embedded Web Server functions

#### Status Monitor

In the “Device Info” section, it is possible to display in real time the printer operating status using the following tools:

- RealTime Status.
- Model Information.
- Printer Parameter.
- Network Settings.
- Advanced Status.

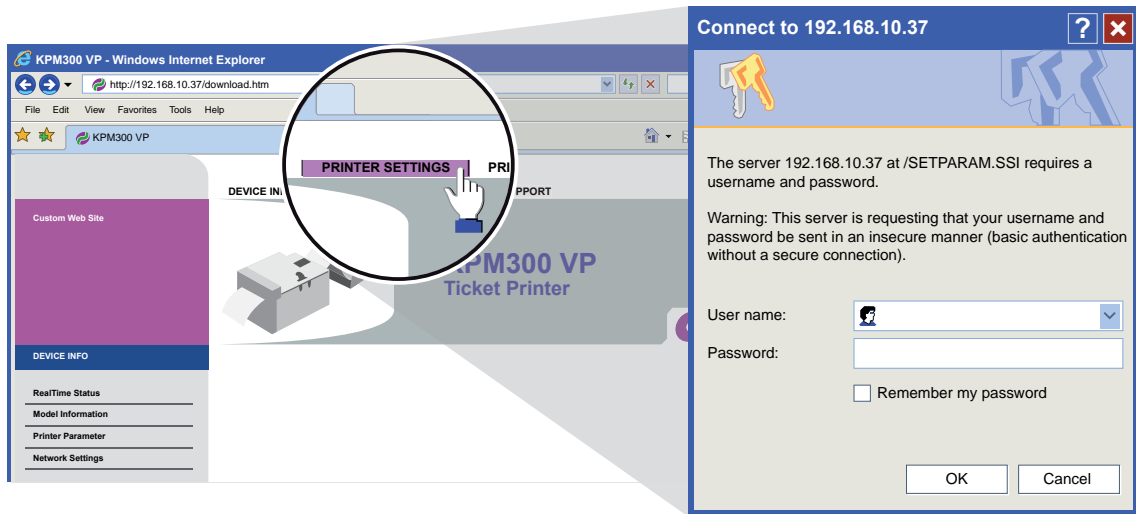
In the page related to “Real Time Status” tool (the internal default page), it is possible to monitor in real time (with a refresh adjustable from 5 to 15sec) and to configure some parameters. The printer picture in the centre of the page and the colour of the lights and the text will signal every change of operating state of the printer (see fig.D.4).



(Fig.D.4)

## Printer settings

The “Printer Settings” section is a restricted one. To enter the section, it is required the identification of the user and password (see par.D.2.2).



(Fig.D.5)

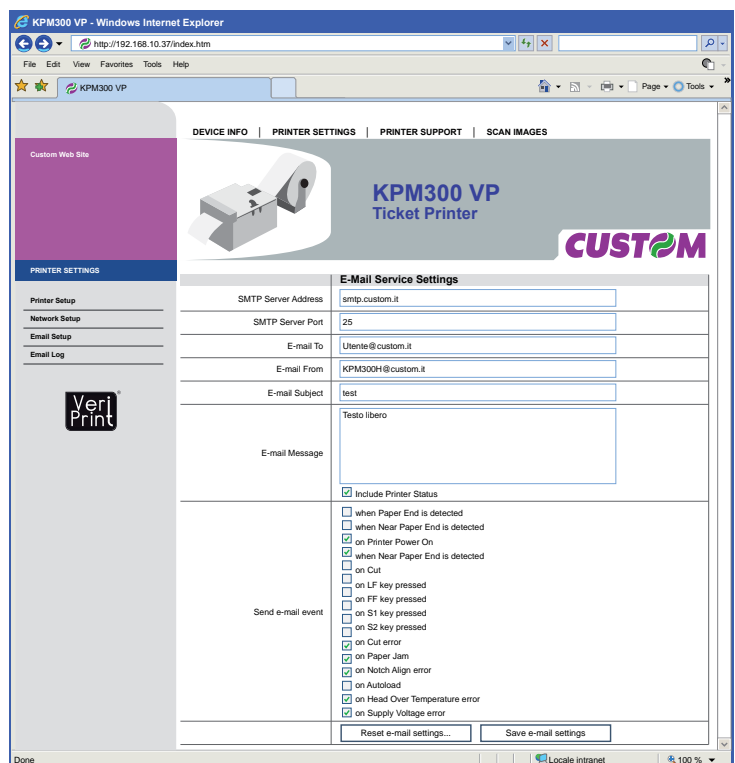
The printer configuration tools are:

- Printer Setup.
- Network Setup.
- Email Setup.
- Email Log.

With these tools, it is possible to set up the same parameters of the printer that are configurable in the printer's Set-up mode (see par.1.3).

With the “Email Setup” tools it is possible to configure the automatically delivery of service email in order to inform the user when a change occurs to operating status of the printer.

The service email can include a short configurable message and the information about the operating printer status (see fig.D.6).



(Fig.D.6)

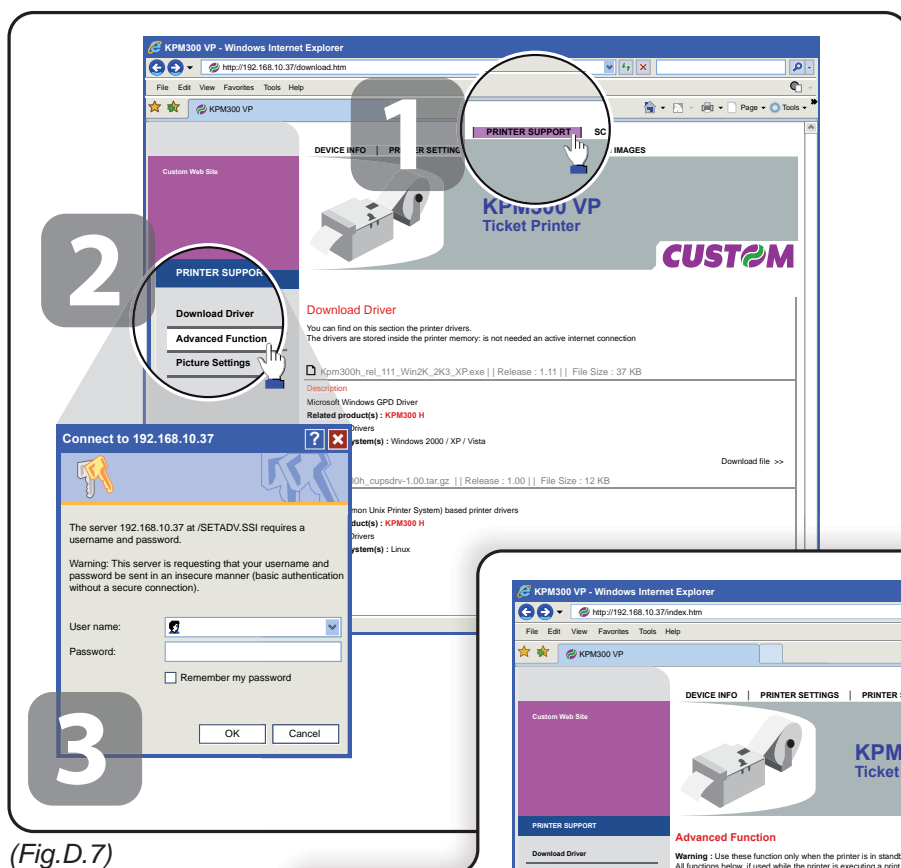
### Test page

The tools of the “Printer Support” section, are:

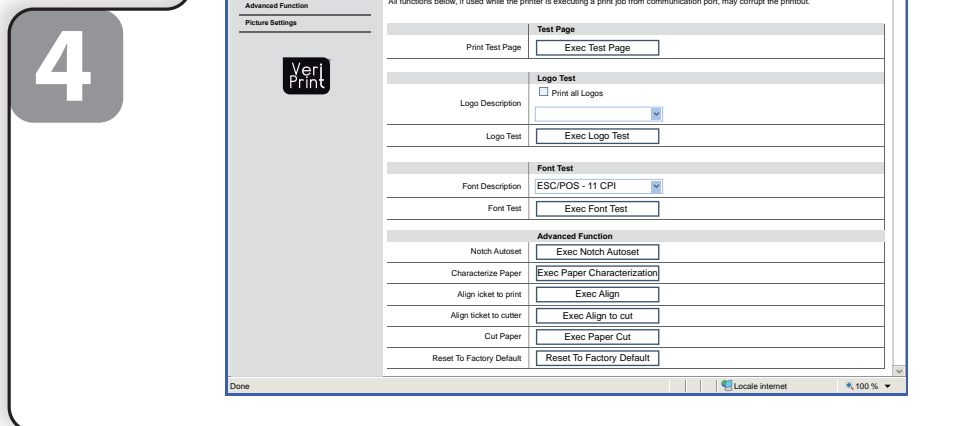
- Download Driver (see par.D.4).
- Advanced Function.
- Pictures settings (see par.D.5).

To enter the test page, proceed as follows:

1. Enter the “Printer Support” section (see fig.D.7).
2. Enter the “Advanced Function” section (see fig.D.7).
3. Make the registration to obtain the access to the restricted area.
4. Now it is possible to test some printer functions (see fig.D.9), for demonstrative and service purpose, as:
  - printing a test page, the font test and the logos test;
  - the self-calibration of the notch sensors and the ticket alignment;
  - reset to factory default.



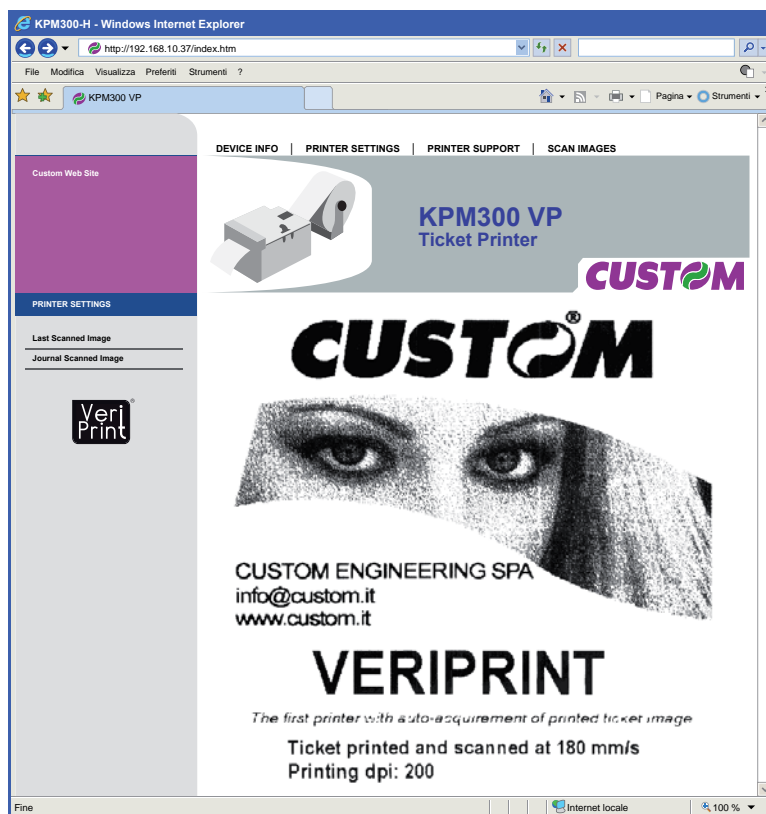
(Fig.D.7)



(Fig.D.8)

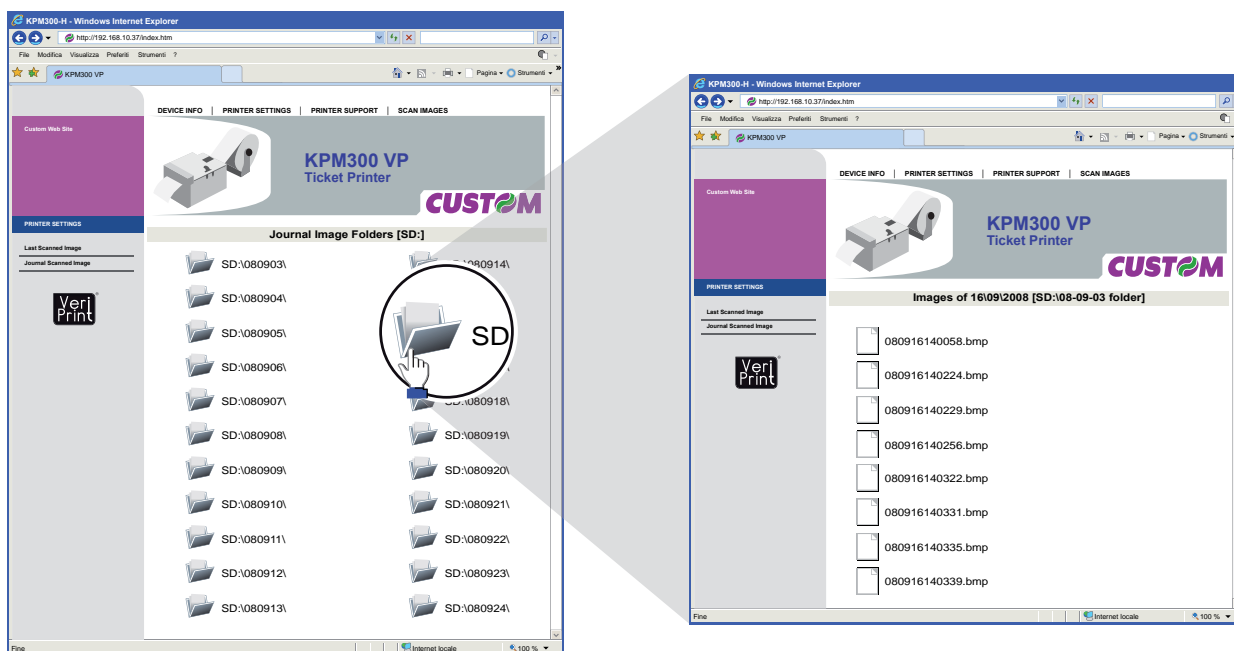
## Scan Images

The “Scan Images” sections opens with the page related to the scan of the last ticket printed which refers to the “Last Scanned Image” tool (see fig.D.9).



(Fig.D.9)

With the “Journal Scanned Image” tool, it opens the page with the links to the folders with the stored scans (divided by day). Then, by opening each folder, it is possible to see the entire list of scans related to the selected day (see fig.D.10).



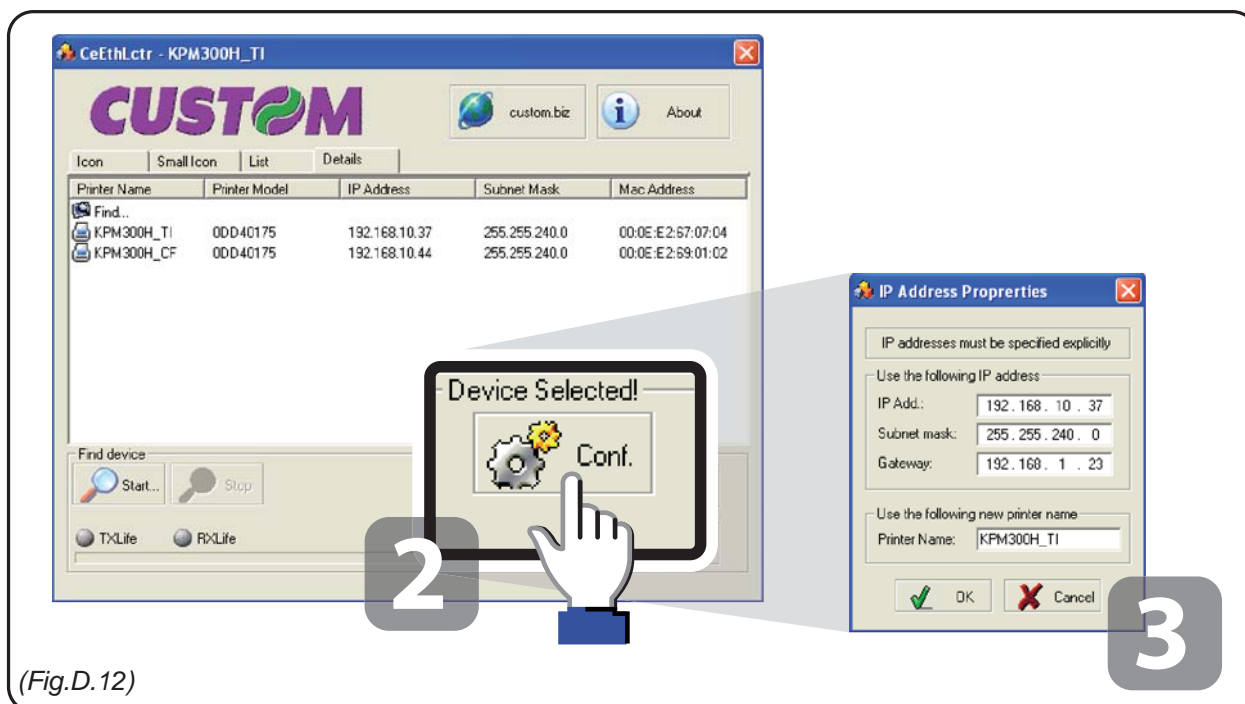
(Fig.D.10)

### D.3 LOCATOR

With KPM300 VERIPRINT® it is available an external software (see fig.D.10). The “Locator” is able to execute a search of the printers connected to the network with an Ethernet cable, without knowing the IP address of each printer.

For each printer detected, “Locator” allows to configure the following parameters (see fig.D.11):

- IP Address.
- Subnet Mask.
- Gateway.
- Printer friendly name.

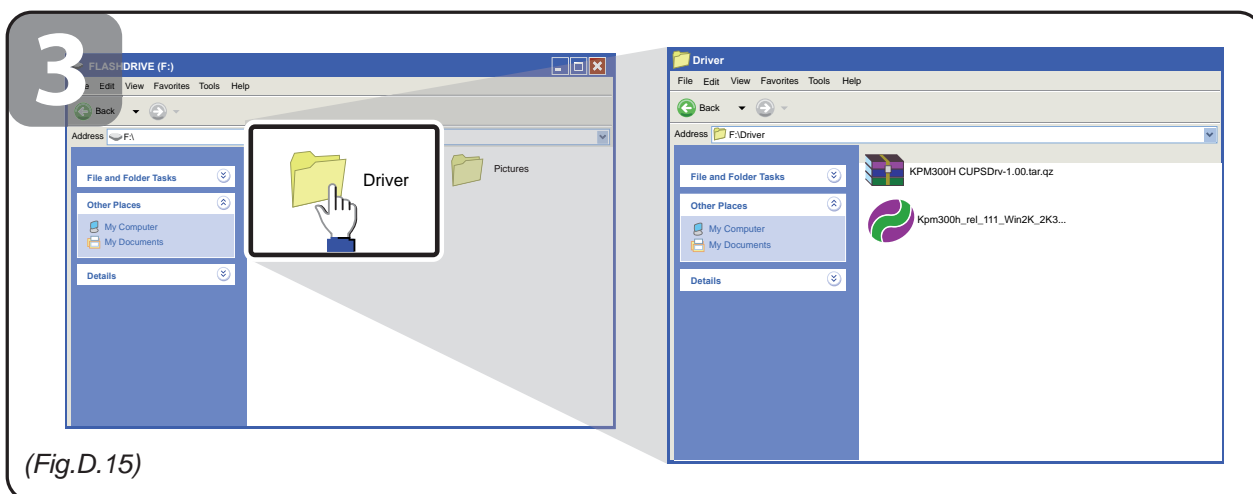
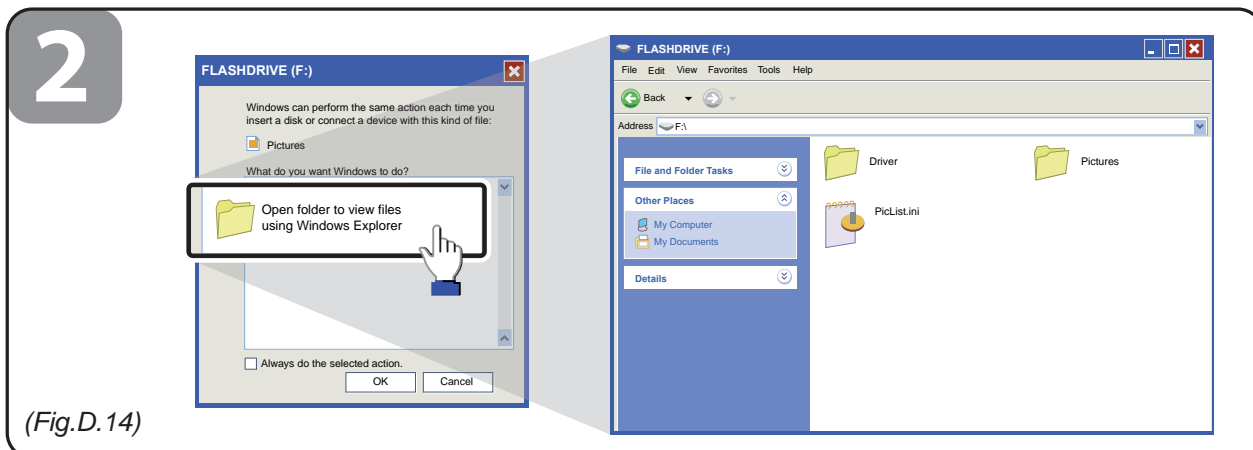
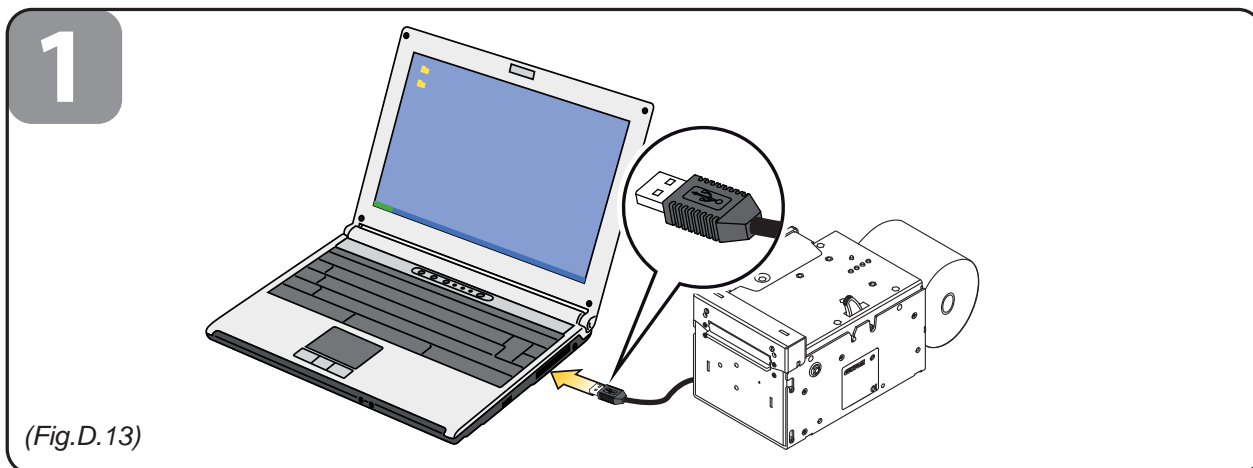


## D.4 WINDOWS / LINUX DRIVERS

### D.4.1 Driver download from Mass Storage

To install printing drivers from USB Mass Storage, proceed as follows:

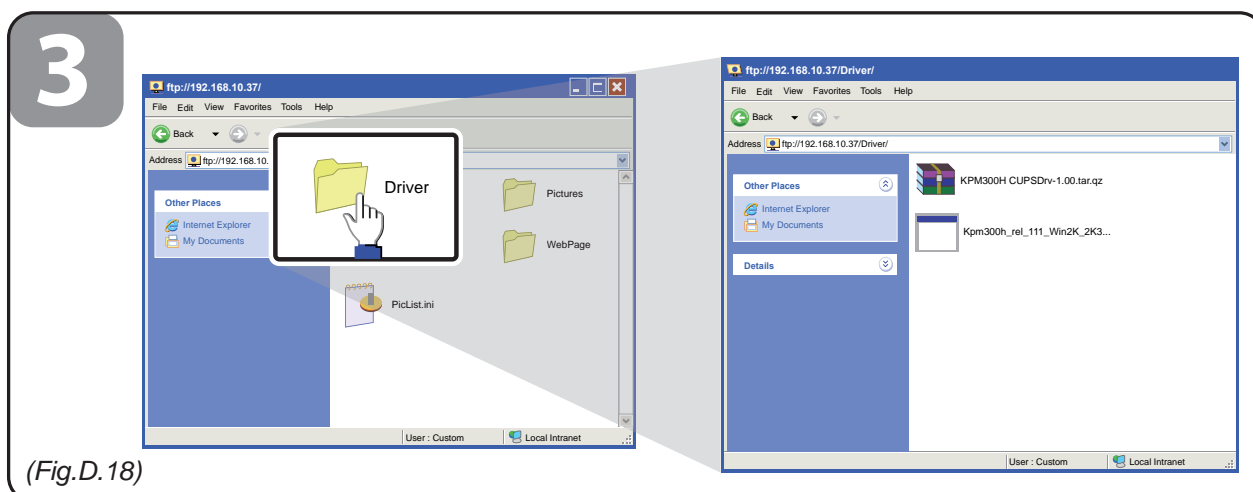
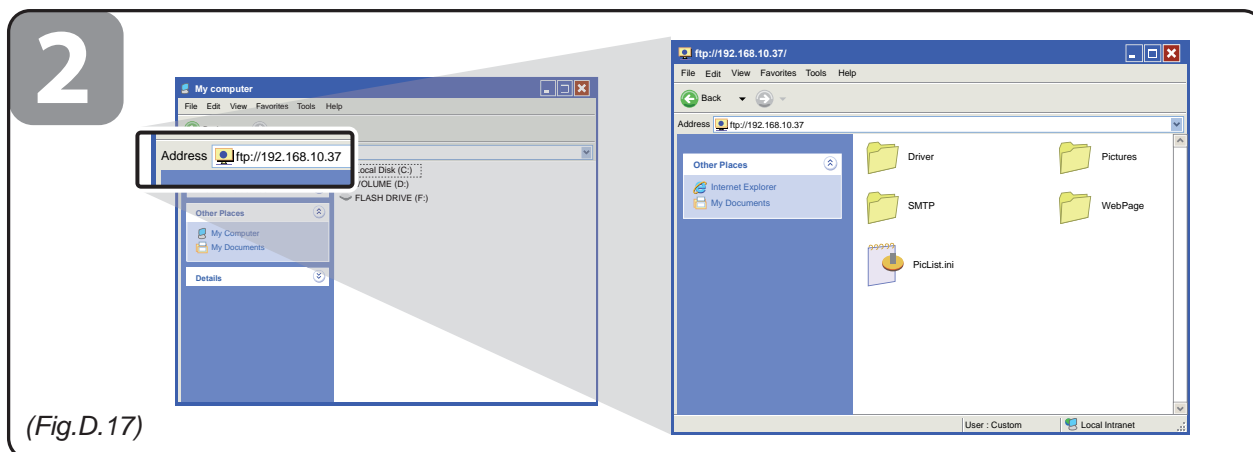
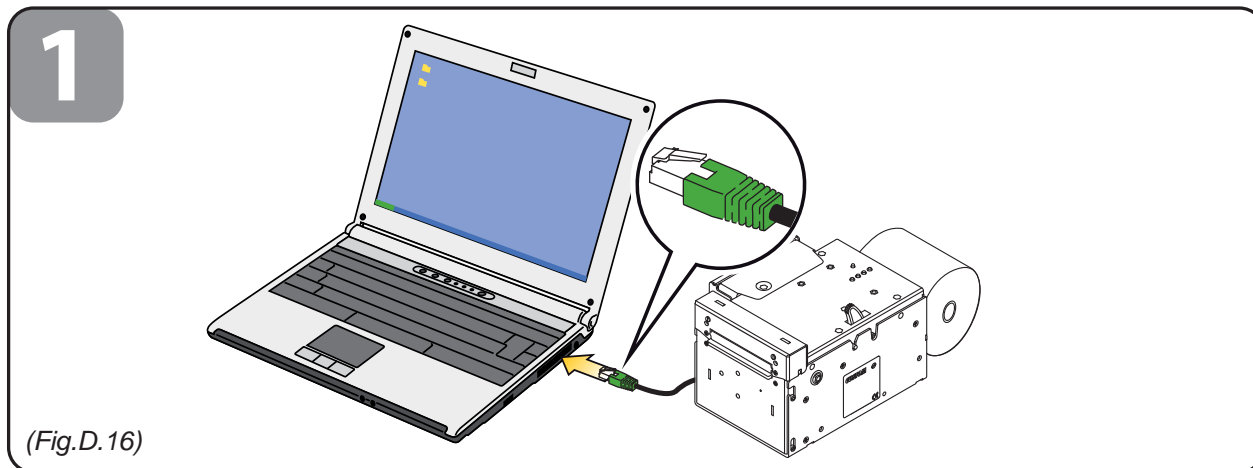
1. Connect the printer to a computer by an USB cable (see fig.D.13).
2. Open printer's Flash Disk and enter the internal folders (see fig.D.14).
3. Copy printer drivers into the "Driver" folder (see fig.D.15).



### D.4.2 Drivers download from FTP

To install printing drivers by FTP Server connection, proceed as follows:

1. Connect to the network the printer and the computer (see fig.D.16).
2. Type in the address bar “**ftp://**” followed by the IP address of the printer (see fig.D.17)
3. Copy printing driver from the “Driver” folder (see fig.D.18) to a local folder and install it.



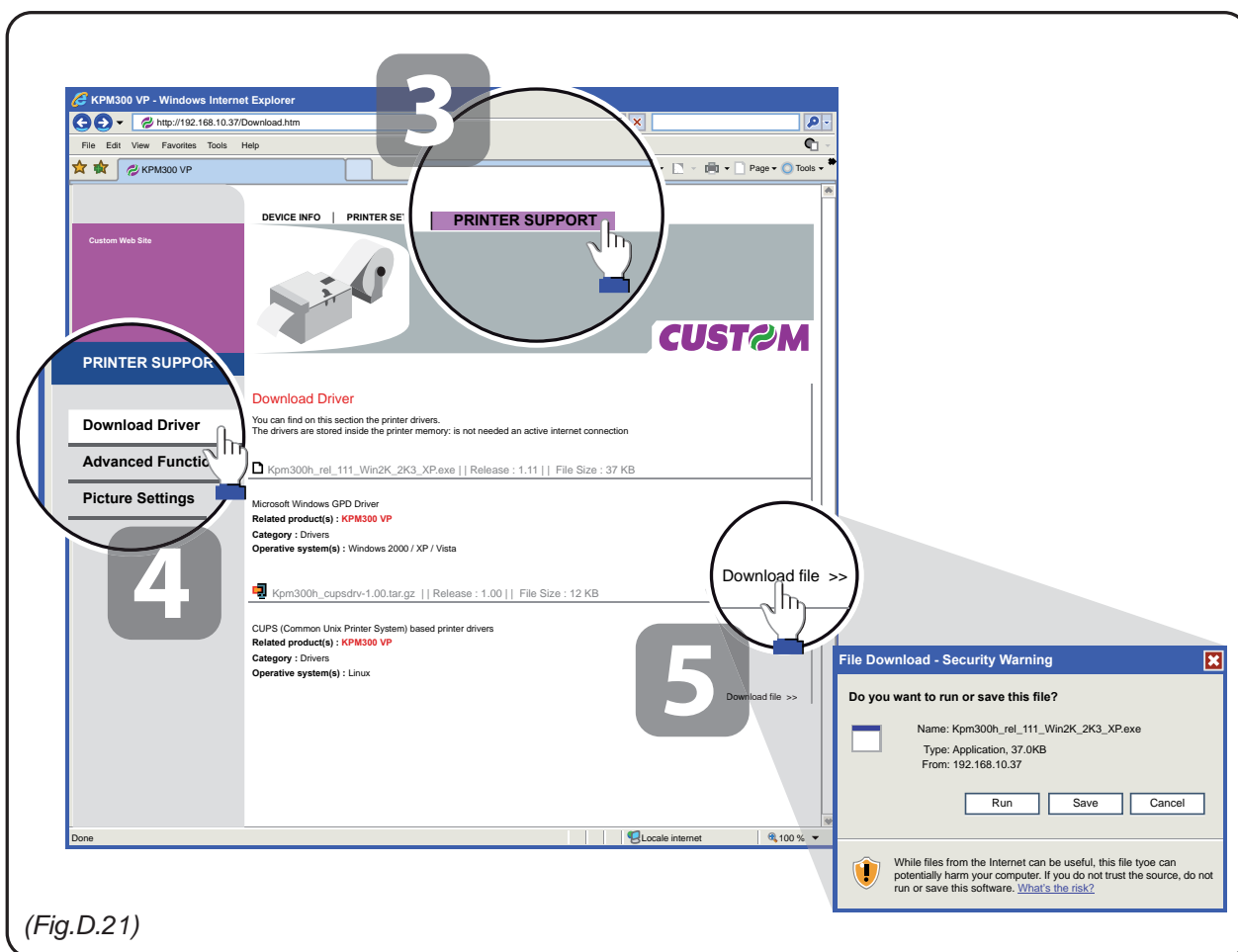
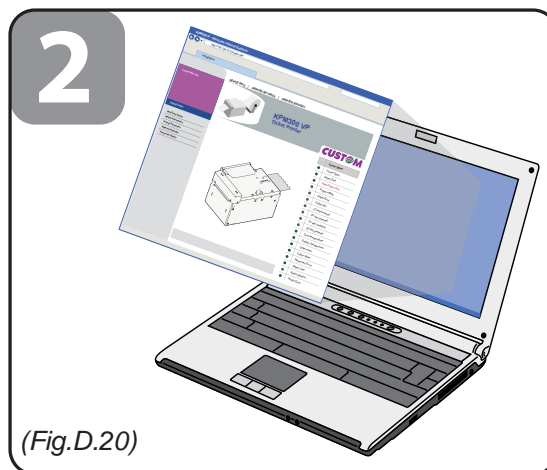
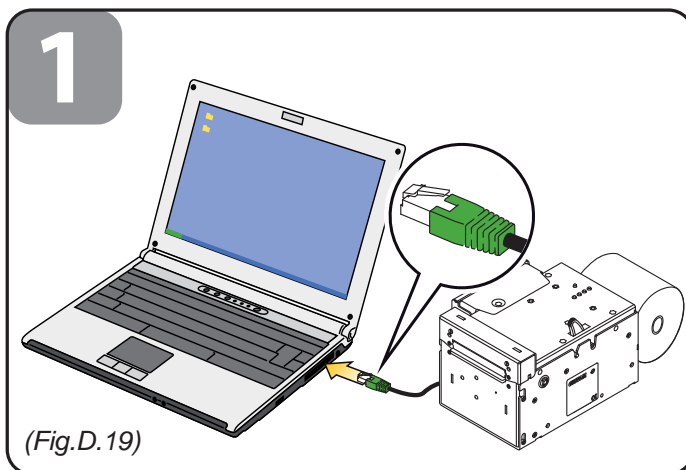
**NOTE:**

- To download drivers from FTP Server, enable “FTP Server” parameter into printer Set-up (see par.D.1.1).
- To know the IP address of the printer, print the Set-up report of the printer (see par.2.3.1) or use “Locator” (see par.D.3).

## D.4.3 Driver download from Embedded Web Server

To download printing driver from the Embedded Web Server, proceed as follows:

1. Connect to the network the printer and the computer (see fig.D.19).
2. Enter into the Embedded Web Server following the instruction of the par.D.2.2.
3. Enter into the "Printer Support" section (see fig.D.20)
4. Enter the page related to "Download Driver" tool (see fig.C.21)
5. Chose the printing driver and click on "Download file >>" (see fig.D.21).



**D.5 SETUP**

The KPM300 VERIPRINT® permits the configuration of default parameters for printer and network setup by editing the “Setup.ini” file on the flash drive.

**D.5.1 “Setup.ini” file**

The “Setup.ini” file is a configuration file in the Flash drive of printer that contains all the configurable parameters listed in text format and divided into some sections (indicated in square brackets).

The available values for every parameter, are listed after the parameter name. The value marked with the symbol ‘ \* ’ is the default one. To modify printer’s parameters, change the numeric value after the name of parameters. To set the parameter to the default value, change the numeric value with the symbol D.

After editing printer’s parameter, simply save the “Setup.ini” file to make the modifies activated.

The “Setup.ini” file permits the configuration of the following parameters:

[PRINT]

<b>Printer Emulation:</b>	0, 1 <sup>D</sup>	0 = ESC/POS™ 1 = SVELTA		
<b>Print Mode:</b>	0 <sup>D</sup> , 1	0 = Normal 1 = Reverse		
<b>Autofeed:</b>	0 <sup>D</sup> , 1	0 = CR disabled 1 = CR enabled		
<b>Chars / inch:</b>	0, 1 <sup>D</sup>	0 = A=11 B=15 cpi 1 = A=15 B=20 cpi		
<b>Speed / Quality:</b>	0, 1, 2 <sup>D</sup>	0 = High Quality 1 = Normal	2 = High Speed	
<b>Paper Width:</b>	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 <sup>D</sup>	0 = 54 mm 1 = 56 mm 2 = 58 mm 3 = 60 mm 4 = 62 mm	5 = 64 mm 6 = 66 mm 7 = 68 mm 8 = 70 mm 9 = 72 mm	10 = 74 mm 11 = 76 mm 12 = 78 mm 13 = 80 mm 14 = 82 mm
<b>Paper Threshold:</b>	0, 1, 2, 3 <sup>D</sup> , 4, 5, 6	0 = 30 % 1 = 40 % 2 = 50 %	3 = 60 % 4 = 70 % 5 = 80 %	6 = 90 %
<b>Notch Position:</b>	0 <sup>D</sup> , 1, 2, 3, 4, 5, 6, 7	0 = Disabled 1 = Low Center 2 = Up Center	3 = Left Side 4 = Right Side 5 = Left Center	6 = Right Center 7 = Tr. Center
<b>Notch Threshold:</b>	0, 1 <sup>D</sup> , 2, 3, 4, 5, 6	0 = 30 % 1 = 40 % 2 = 50 %	3 = 60 % 4 = 70 % 5 = 80 %	6 = 90 %
<b>Notch Distance [mm]:</b>	+0.0			
<b>PaperEnd Buffer Clear:</b>	0, 1 <sup>D</sup>	0 = Disabled 1 = Enabled		
<b>Binary Log File:</b>	0 <sup>D</sup> , 1	0 = Disabled 1 = Enabled		
<b>Barcode Reader Type:</b>	0 <sup>D</sup> , 1, 2	0 = None 1 = MR008	2 = CX002	
<b>Ticket Locking:</b>	0 <sup>D</sup> , 1	0 = Disabled 1 = Enabled		

<b>Print Density:</b>	0, 1, 2, 3, 4 <sup>D</sup> , 5, 6, 7, 8	0 = - 50 %	3 = - 12 %	6 = + 25 %
		1 = - 37 %	4 = 0 %	7 = + 37 %
		2 = - 25 %	5 = + 12 %	8 = + 50 %

## [INTERFACE]

<b>RS232 Baud Rate:</b>	0, 1, 2, 3, 4, 5, 6, 7, 8 <sup>D</sup>	1 = 1200 bps	4 = 9600 bps	7 = 57600 bps
		2 = 2400 bps	5 = 19200 bps	8 = 115200 bps
		3 = 4800 bps	6 = 38400 bps	

<b>RS232 Data Length:</b>	0 <sup>D</sup> , 1	0 = 8 bits/chr
		1 = 7 bits/chr

<b>RS232 Parity:</b>	0 <sup>D</sup> , 1, 2	0 = None
		1 = Even
		2 = Odd

<b>RS232 Handshaking:</b>	0 <sup>D</sup> , 1	0 = Xon/Xoff
		1 = Hardware

<b>Busy Condition:</b>	0 <sup>D</sup> , 1	0 = RxFull
		1 = OffLine/RxFull

<b>USB Address Number:</b>	0 <sup>D</sup> , 1, 2, 3, 4, 5, 6, 7, 8, 9	0 = 0	4 = 4	8 = 8
		1 = 1	5 = 5	9 = 9
		2 = 2	6 = 6	
		3 = 3	7 = 7	

## [SVELTA]

**Ticket X Dimension**

**Ticket Y Dimension**

**Notch Distance**

**Notch Width**

**Barcode Timeout**

**Ticket Offset X**

**Ticket Offset Y**

## [NETWORK]

<b>DHCP Client:</b>	0 <sup>D</sup> , 1	0 = Disabled
		1 = Enabled

<b>FTP Server:</b>	0 <sup>D</sup> , 1	0 = Disabled
		1 = Enabled

**IP Address**

**Subnet Mask**

**Default Gateway**

**Domain Name System**

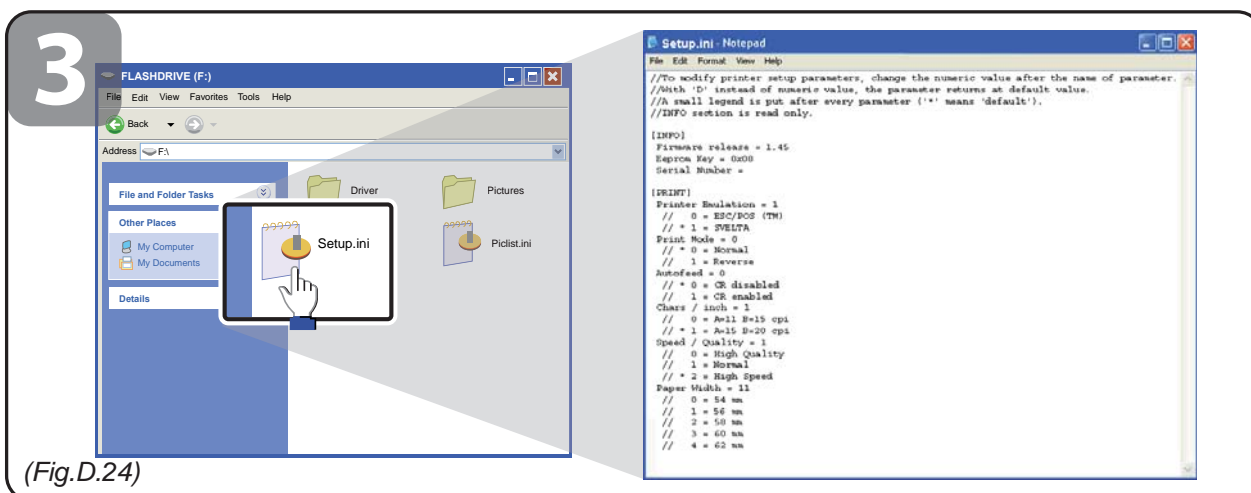
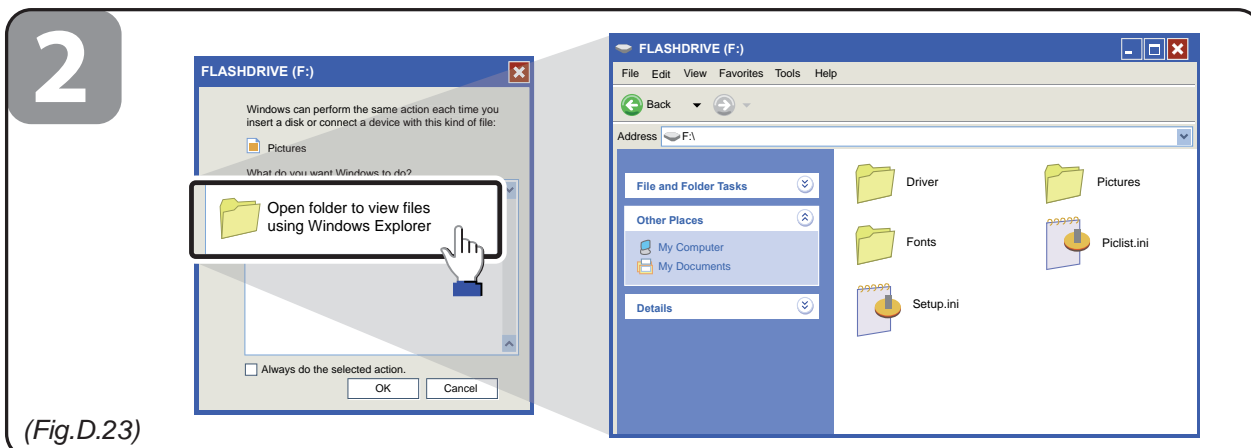
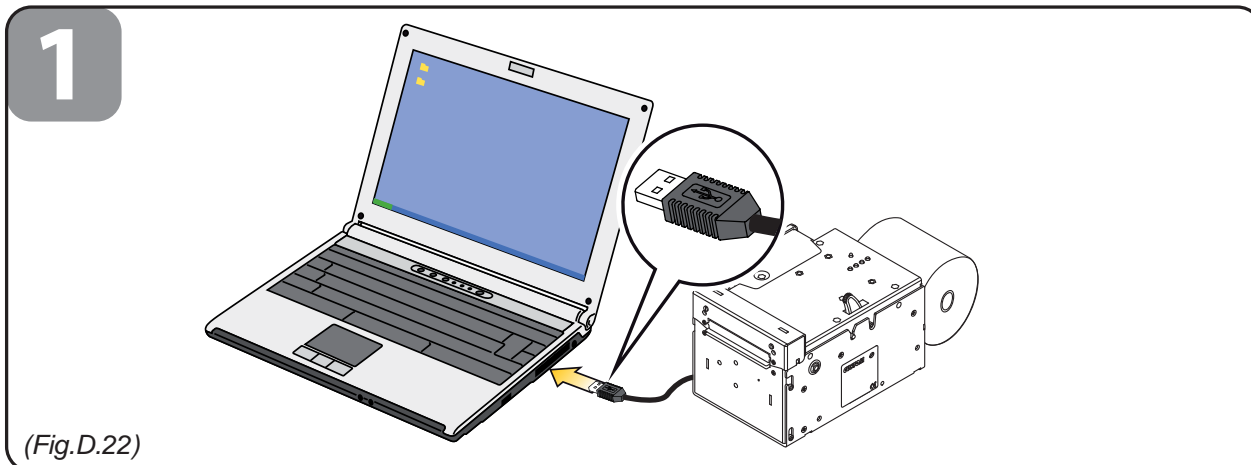
**TCP Printer Port**

**MAC Address** (Solo lettura)

### D.5.2 Enter Setup mode from USB Mass Storage

To configure printer and network parameters from USB Mass Storage, proceed as follows:

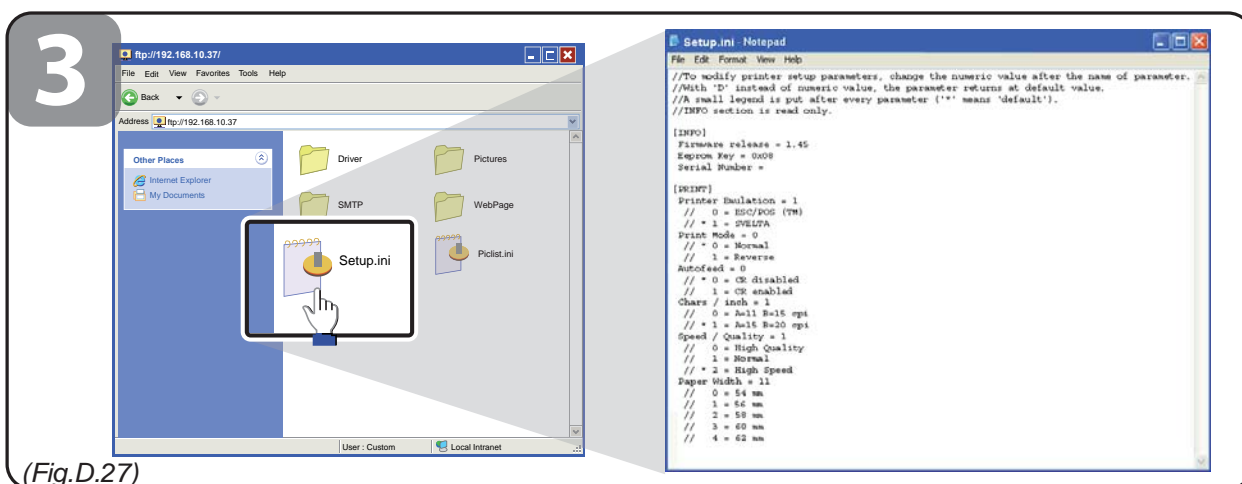
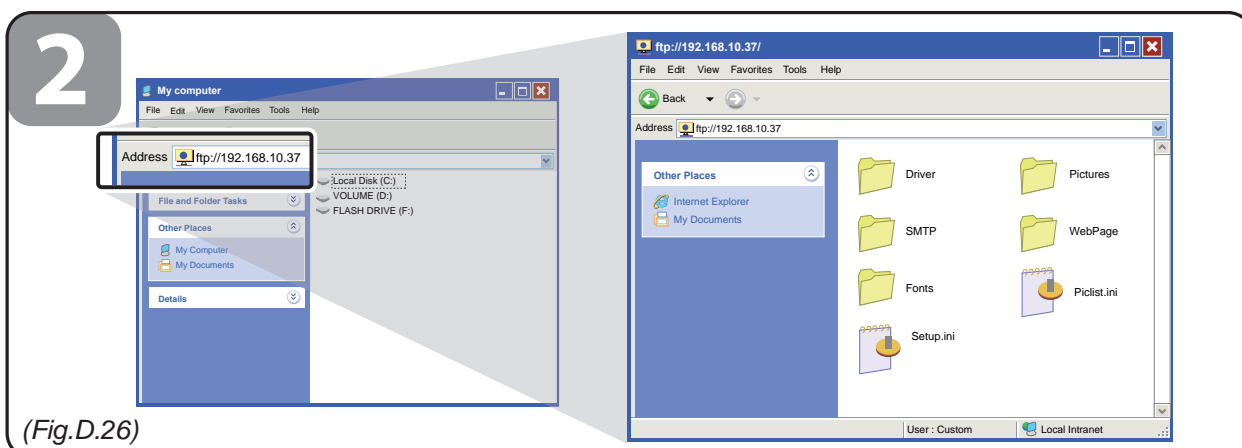
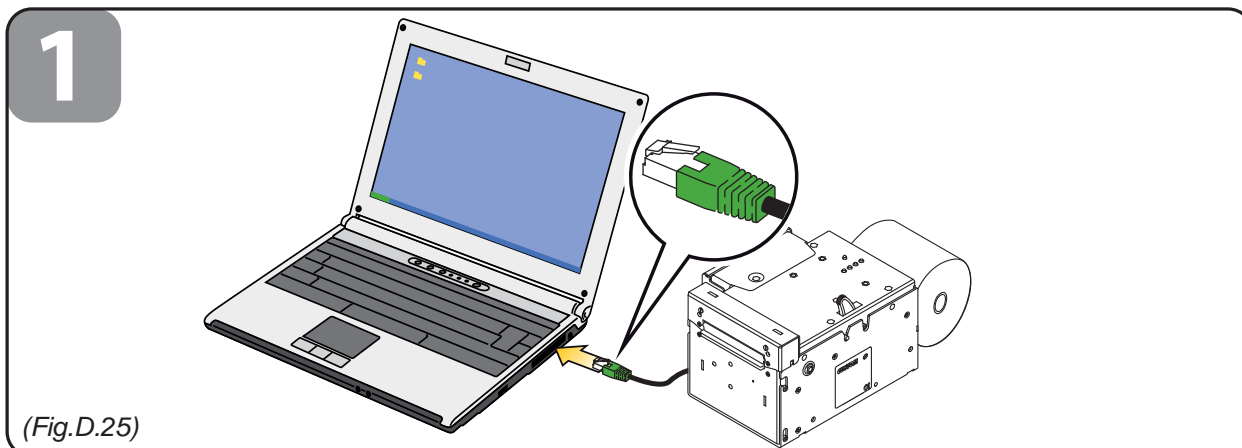
1. Connect the printer to a computer by an USB cable (see fig.D.22).
2. Open the printer's Flash Disk (see fig.D.23).
3. Open the "Setup.ini" file (see fig.D.24).
4. Modify the printer's parameters (see par.D.5.1). Save and close the "Setup.ini" file.



### D.5.3 Enter Setup mode from FTP Server

To configure printer and network parameters from FTP Server, proceed as follows:

1. Connect to the network the printer and the computer (see fig.D.25).
2. Type in the address bar “**ftp://**” followed by the IP address of the printer (see fig.D.26)
3. Open the “Setup.ini” file (see fig.D.27).
4. Modify the printer’s parameters (see par.D.5.1). Save and close the “Setup.ini” file.



#### NOTE:

- To configure parameters from FTP Server, enable “FTP Server” parameter into printer Set-up (see par.D.1.1).
- To know the IP address of the printer, print the Set-up report of the printer (see par.2.3.1) or use “Locator” (see par.D.3).

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# CUSTOM



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Ministry Universit  
Research Scientifi  
T e c h n o l o g  
Authorized laborator  
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