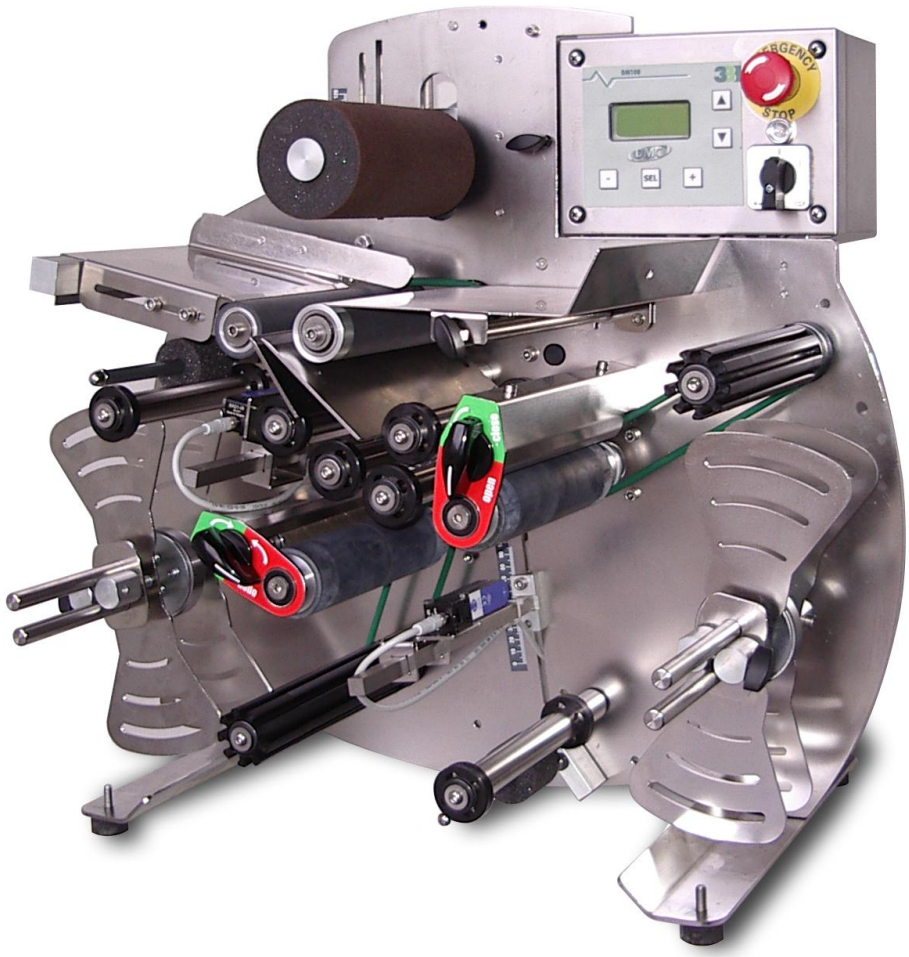
BENCH TOP LABELLER

LXT12-2



TENCO S.R.L. unipersonale Via Arbora 1 16030 AVEGNO (GE) Italy P.IVA / VAT 03111170100
tel +39-0185-79.556 fax +39-0185-79.412 info@tenco.it
www.tenco.it

USER'S MANUAL

CONTENTS

CHAPTER 1

DECLARATION OF CONFORMITY

We

TENCO S.r.l.
Via Arbora 1, 16036 Avegno (GE) – Italy

declare on our own responsibility that the product:

Model: **LXT12-2**
Serial no. **xxxx**
Year of manufacture: **2015**

referred to in this declaration, complies as far as possible with the requirements outlined in the following Directives:

- 98/37/EC Machinery Directive
- 89/336/EEC Electromagnetic Compatibility Directive
- 73/23/EEC Low Voltage Directive

and that the following technical standards have been applied:

- EN ISO 12100-1 Basic concepts, general principles for design. Basic terminology, methodology
- EN ISO 12100-2 Basic concepts, general principles for design. Technical principles
- EN 294 Safety of machinery. Safety distances to prevent danger zones being reached by upper limbs.
- EN 349 Safety of machinery. Safety distances to prevent hazard zones being reached by upper and lower limbs.
- EN 563 Temperatures of touchable surfaces. Ergonomics data to establish temperature limit values for hot surfaces
- EN 1050 Safety of machinery. Principles for risk assessment.

Avegno (GE), <DATE>

The legal representative of the
Company
Giuseppe Tenco

Signature

CHAPTER 2

MARKING

Below is an example of the CE labelling reported on the machine frame.

TENCO SRL
Via Arbora 1, 16036 - Avegno (GE) Tel. 0185 79556
www.tenco.it info@tenco.it

ANNO	ALIMENTAZIONE
MODELLO	POTENZA
MATR.	PRESSIONE ARIA
CE	CONSUMO ARIA
	MASSA

Conforme alle normative anti-infortunistiche CE

CHAPTER 3

WARRANTY

TENCO S.r.l. guarantees its products for 12 months from the date of delivery, indicated by the date on the shipping document.

The warranty covers all defects of conformity of the machine with reference to the regulations in force on the subject. The defect of conformity must be reported promptly and clearly to TENCO SRL via registered letter: the company will evaluate the defect and indicate the possible remedies in compliance with the directive in force. The manufacturer does not accept claims for defects of conformity which, though obvious or readily detectable in use, are not reported promptly.

TENCO SRL is not responsible for damages or defects due to improper installation and use, or malfunctions attributable in any case to negligence of any kind.

TENCO SRL is not responsible for damages to property or persons deriving from improper use of the machine or failure to comply with the instructions in the manual enclosed with the machine.

Repairs made under the warranty, involving additional expenses such as travel to the user's premises, particular shipments, etc., must be agreed on in advance with TENCO SRL.

The warranty is automatically invalidated if the machine is tampered with, or in case of unauthorized repairs or use other than that expressly indicated.

The personnel assigned to operate the machine must have psychological and physical characteristics compatible with use of the machine, and must be instructed in its correct use. TENCO SRL is not responsible for damages caused by erroneous use of the machine.

For anything not expressly mentioned here, reference is made to the regulations in force on the subject. In case of any disputes, the Court of Genova has jurisdiction.

CHAPTER 4

GENERAL SAFETY INDICATIONS

This manual is an integral part of the machine and must accompany it throughout its life. Before performing any operation, read each and every part of this manual carefully.

The company cannot be held responsible for property damage, injuries or damage to the machine itself due to non-compliance with the instructions found herein.

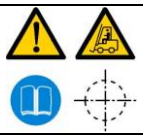
The machine must be installed in good workmanlike manner and only by qualified personnel.

The operating personnel must receive adequate training in use of the machine and must be in good psychological and physical condition and must not be under the influence of alcohol, drugs or medications that reduce alertness.

The operator must be aware of the dangers derived from use of the machine.

4.01 Pictograms

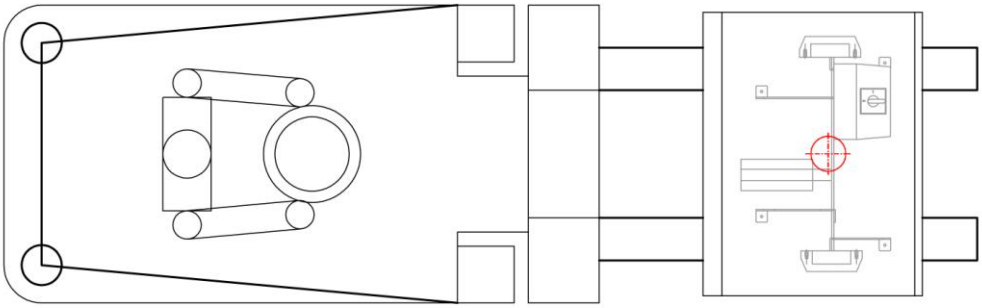
The safety-related pictograms posted on the machine (when required) and their meanings are reported below. If the pictograms become illegible, they must be replaced (under the customer's responsibility).

	Danger due to a voltage of 400V
	Do not use water to put out fires – use the forms of extinguishing indicated in the standards
	Danger related to transport; follow the instructions given in the manual; indication of the machine centre of gravity, to be used when positioning the forks of the transport forklift truck
	Danger of hot parts
	Danger of pinching/crushing limbs

4.02 Residual risks

The figure below displays the residual risks that the machine may present during transport, operation and maintenance.

RISK OF TIPPING
AND BEING CRUSHED
DURING TRANSPORT
when the centre of gravity indicated
by the pictogram posted on the
machine and the warnings
for transport are not heeded.



4.03 Demolition

If the machine is to be demolished, it must be taken apart and the metal parts — steel, aluminum and copper — separated from the plastic parts in PVC.
Recover the grease from the gearboxes found in the labeling station movement mechanism casing.
Finally, take the separated materials to special waste disposal centers.

CHAPTER 5

TRANSPORT AND OPENING THE PACKAGE

WARNING: before moving the machine, make certain that the unit being used is rated for the weight of the machine (see the "technical characteristics" table) and note the manufacturer posted centre of gravity pictogram on the machine.

5.01 Packaging

MODEL	PACKAGE
ET 12/01	N.1 pallet
ET12/02	N.1 pallet

5.02 Handling the crates or boxes

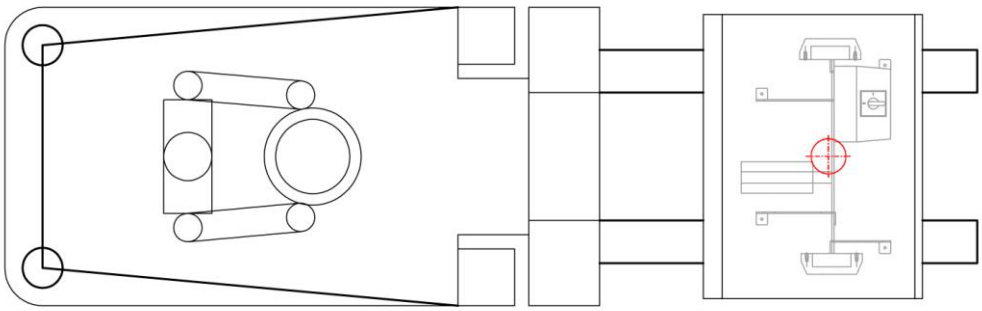
The long sides of the packaging are marked with a symbol indicating the centre of gravity for the entire package. When handling with a forklift truck, make certain that the forks are set symmetrically vs. this centre of gravity symbol. Moreover, the forks should be far enough apart to prevent the load from swinging or tipping over during transport.

5.03 Opening the package

When opening the package, make certain that the contents match what is indicated in the shipping documents, that they are not damaged, have not been tampered with or anything else. This must be done in the presence of the carrier making the delivery (see WARRANTY). Dispose of the packaging materials as outlined in the current standards.

5.04 Handling the contents

Withdraw all the material from the package and bring the machine to the point where it is to be used; this must be done following the same precautions followed when moving the packaged unit. Set the forks of the forklift truck so that they are symmetrically vs. the centre of gravity pictogram posted on the machine (see paragraph 4.01 Pictograms). Adjust the width of the forks so that the load cannot swing or tip over.



CHAPTER 6

INITIAL INSTALLATION

6.01 Arranging the area

Arrange an area suitable for operation of the machine (see the "technical characteristics" table) as per European standard EN60079.
Set the unit at a point where the lighting is not less than 200 lux.
The power cable supplied with the unit is 5 metres long and fit with plug (IEC 309 3P + T 400 V).
Check the distance for access to the electrical panel for hook up.
Do not use extension cords of any sort, flat or winding, as there is the risk of overheating.
Also arrange for connection to a compressed air system.

6.02 Positioning

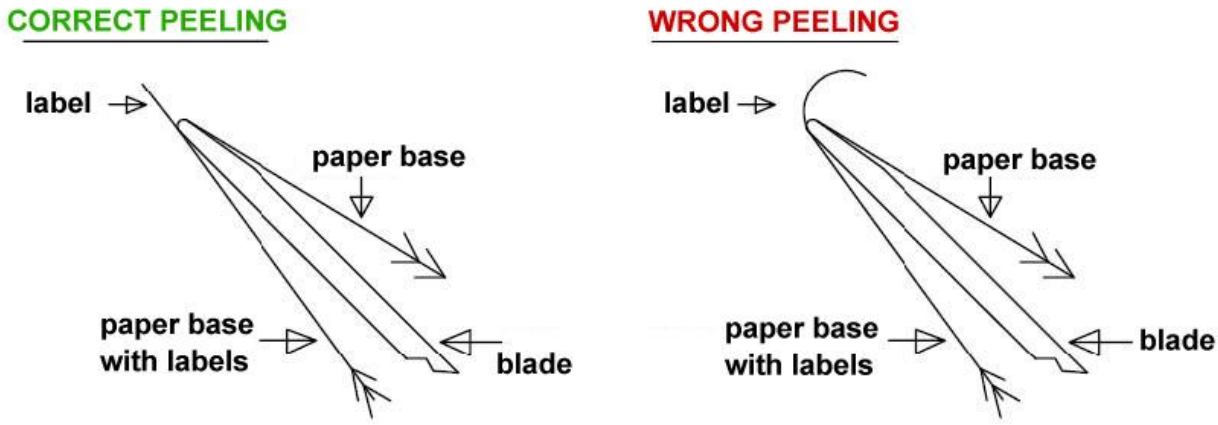
Moving the machine very carefully, take it to the arranged position (see 5.03 Handling the contents).
Set the machine in a stable position, check that it is level, make any necessary corrections and then lock the wheels or adjustable feet.

6.03 Electrical connections

Make certain that the power supply system has a differential circuit breaker and an earthing system compliant with the standards.
Check the electric characteristics of the machine (see "technical characteristics" table) and check that the power supply is suitable and compliant with Directives 98/37/EC (Machinery Directive), 94/9/EC (ATEX Directive), 89/336/EC (Electromagnetic Compatibility Directive), 73/23/EEC (Low Voltage Directive).
After having checked the above, hook up the machine to the power supply using the cable and plug (IEC 309 3P + T 400 V) provided.

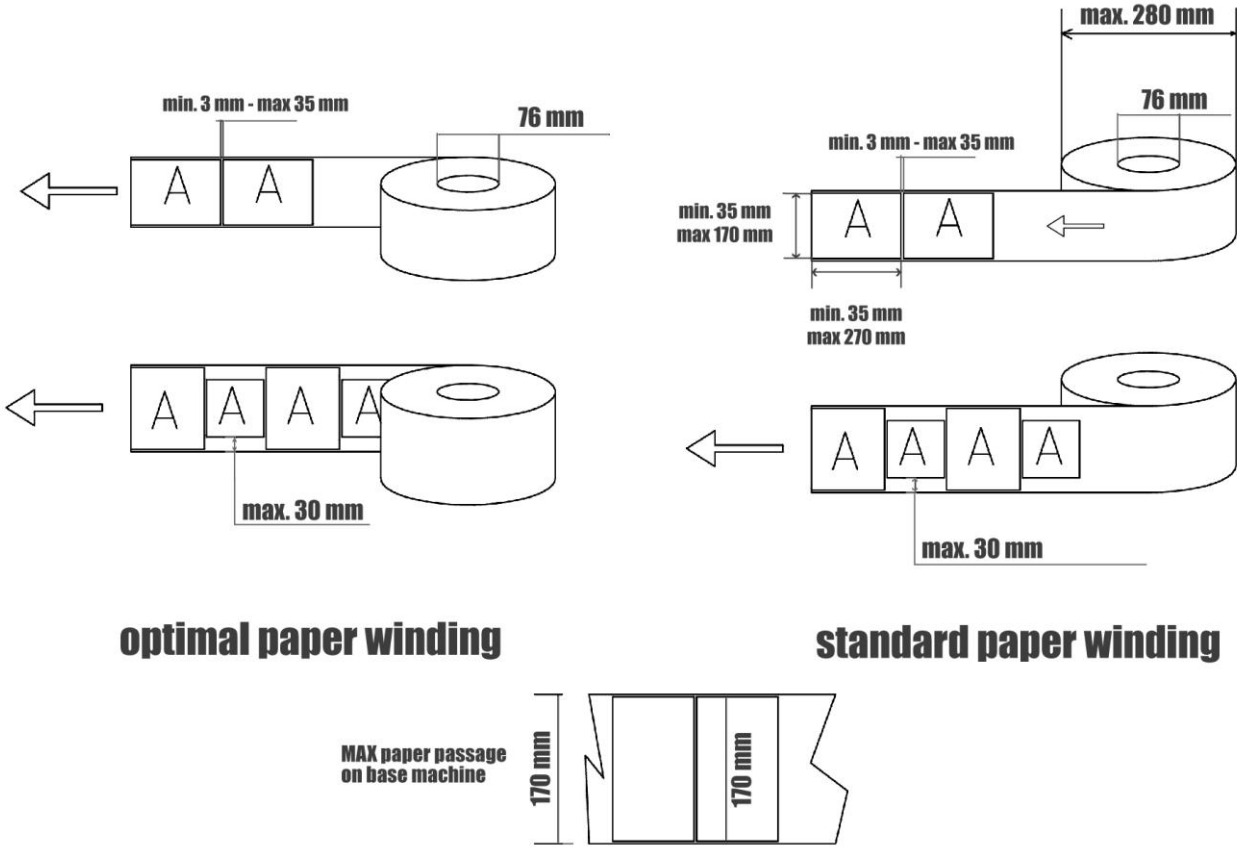
6.04 Paper quality

If the quality of the paper used in the labels is not suitable for blade peeling, the labels can get twisted and machine function will be poor. Always notify the label manufacturer of the problem of peeling.



6.05 Direction of paper winding

The rolls of labels (front, back and neck labels) must be printed and rolled up as shown below.



CHAPTER 7

GENERAL

LXT12-1 VERSION

LXT12-2 VERSION

7.01 Technical specifications

7.01.01 TECHINCAL CHARACTERISTICS TABLE

Type of container (dimensions min – max)

Cylindrical:	diameter from 45 mm to 120 mm (ET12-1)
	diameter from 55 mm to120 mm (ET12-2)
Conical:	yes, max 2,5° (ET12-1), max 1,5° (ET12-2)
Square:	YES optional
Shaped:	YES optional

Technical specifications

Hourly production:	**700 bph**
Labelling tolerance:	± 3 mm
Work cycle type:	digital control
Max. number of stations:	2
Paper path width:	170 mm max.
Roll max diameter:	280 mm
Printer:	optional
Motorization:	asynchronous motors
Bottle ejection:	automatic
Pneumatic supply:	NO
Air consumption:	NO
Electrical power supply:	380 V, 50 Hz
Absorption:	0,5 kW (mod. ET12/01), 0,75 kW (mod. ET12/02)
Packaging:	Pallet
Weight (without packaging):	45 Kg (mod. ET12/01), 55 kg (mod. ET12/02)
Max. dimensions:	see overall dimensions

7.01.02 DIMENSIONAL MEASUREMENTS AND OTHER SPECIFICATIONS

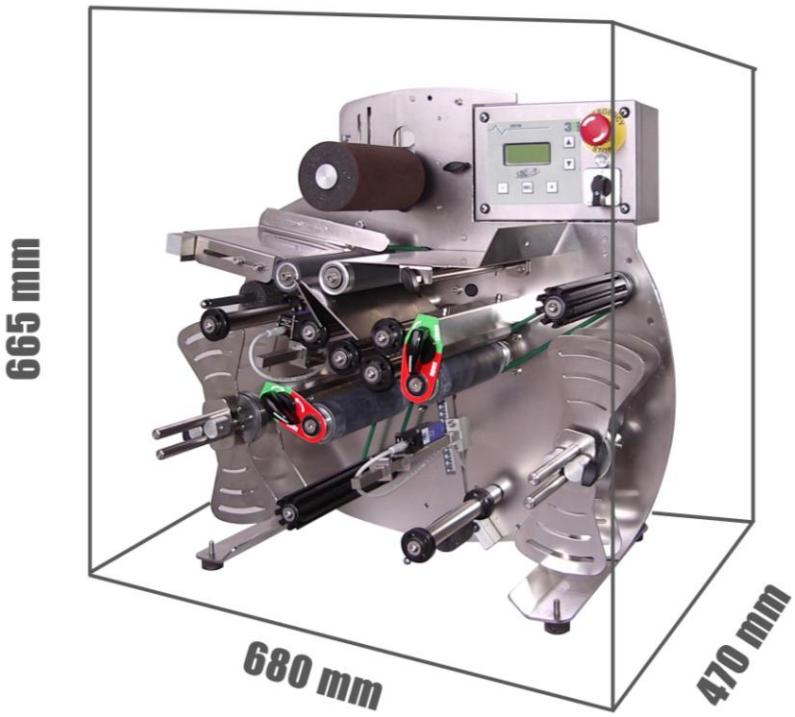


Photo 7.1 Main circuit breaker

Photo 7.2 Emergency push button

7.02 Machine description

This new model has been realized to meet the needs of those customers who are asking for a semi-automatic labeler but want a more precise, flexible and safer product as an automatic model is.

Always keeping the sponge motorized roll for label stretching (our patent nr. 1371034 and nr. 1559018) we have improved it by adding a vertical sliding that allows a better catch and ejection of the container; thanks to this new feature, the machine can work properly even with containers with low physical resistance to pressure, such as those in PET.

The machine is equipped with an electronic control panel and can store in memory up to 50 different programs for as many different containers; the standard motorization is three-phased.

The model is provided with a new cam system for paper dragging, which allows an optimal drawing without sliding with any kind of paper and an easier and faster paper reels loading / unloading procedure.

7.03 Composition of the machine

01. Machine body
02. Control panel

Photo 7.3 Machine body

Photo 7.4 Control panel

Photo 7.5 Bottle insertion

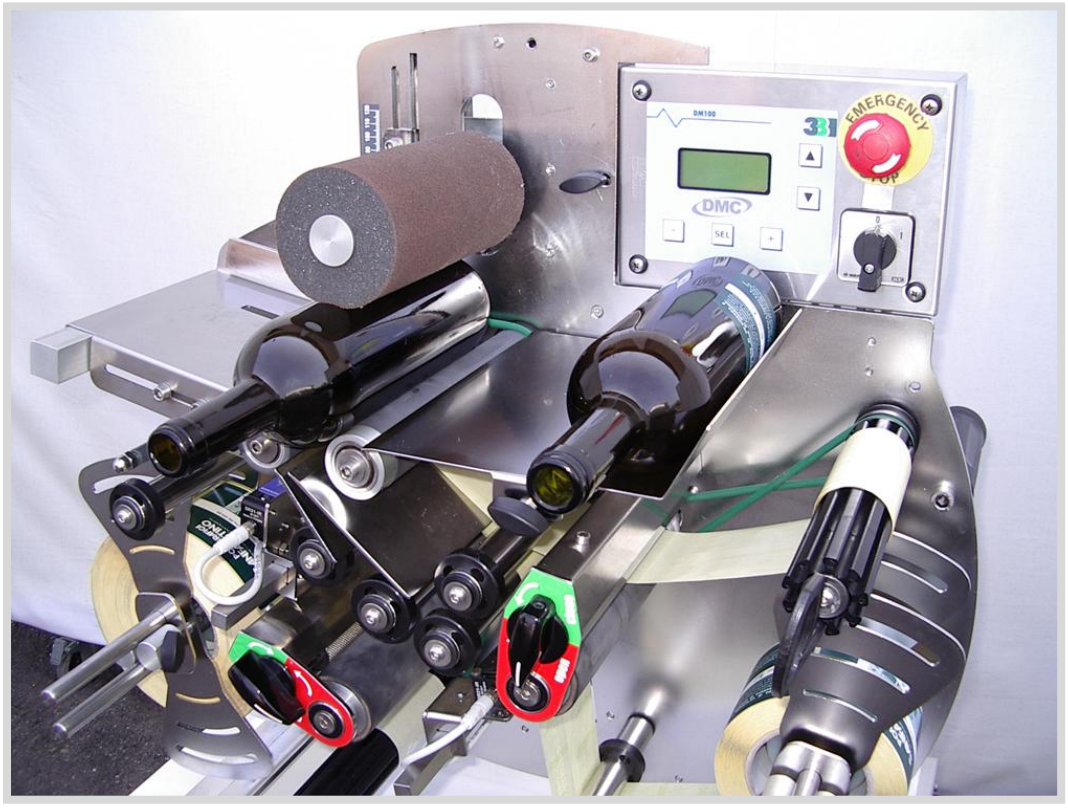


Photo 7.6 Bottles labelled

7.04 Control panel

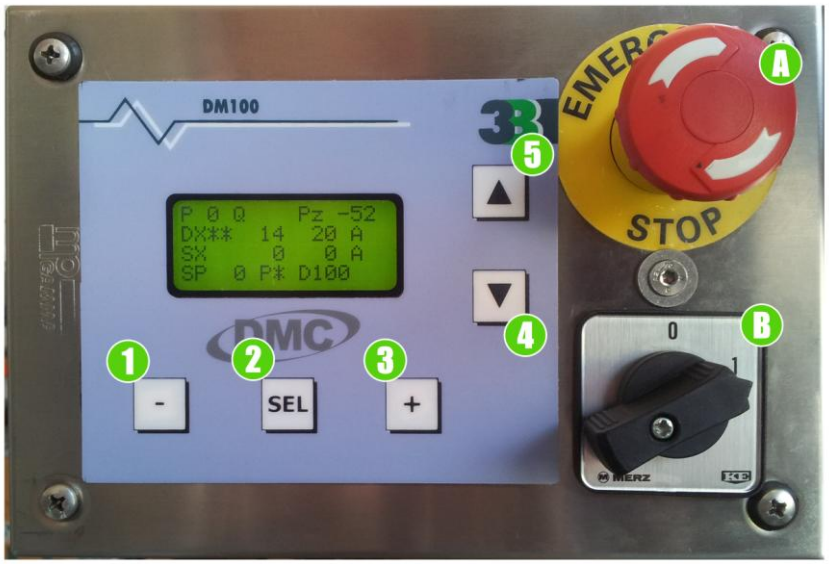


Photo 7.7 Control panel

01	Button to decrease value
02	SEL button
03	Button to increase value
04	Move down button
05	Move up button
A	Emergency push button
B	Main circuit breaker

Table 7.1 Push buttons on control panel

CHAPTER 8

START-UP

After having installed the machine as described in chapter 6, you can proceed with start-up.

8.01 Turning the machine on and off

8.01.01 PRELIMINARY OPERATIONS AND TURNING THE MACHINE ON

To turn on the machine, you must:

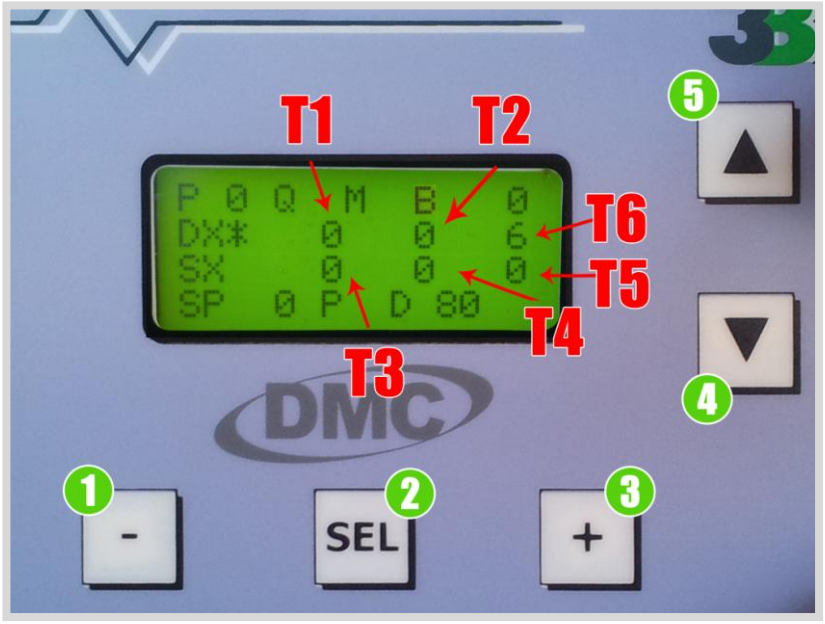
- Trip the main circuit breaker B photo 7.7 on the position 1
- Disengage the emergency push-button A photo 7.7 on the right of the control panel.

8.01.02 STOPPING THE MACHINE

It is possible to stop the machine while it's working by acting on the emergency push button: in this case all machine movement is stopped regardless of the work cycle progress status.
It is not possible to know exactly the work cycle phase when the machine has stopped, therefore, before turning on the machine, it is necessary to raise the pressing roll, take the bottle off and re-position the label in order to make it stick 1-2 mm out of the blade (fig. 9.14 page 46).

8.02 Main Menu

After turning on and starting up the machine, the main work menu shown below appears on the display



- Use the UP / DOWN arrows (ref. 4 and 5) to scroll the cursor in the various sections of the display.
- Use the SEL button to enter a parameter change
- Use the + / - (ref. 1 and 3) to enable / disable functions or to increase / decrease the values to change.

For example, to change the value T1 proceed as follows:

a) With the UP/DOWN arrow scroll the cursor to select the T1 value (the value 14 in the example)
b) Press the SEL button to change the value: the cursor "< " flashing
c) Use the + / - buttons to set the new value
d) To save the changes and return to work, press the SEL button.

Warning: If you do not select any label, the cycle starts but stops immediately after.

Here follows a detailed description of the adjustment in the main menu:

01	**P**	indicates the number of program used, up to maximum 49
02	**Q**	square bottle format, if enabled appears an asterisk
03	**M**	Enables manual charging of the container (only mod. ET12)
04	**Pz/B**	Labelled bottle decreasing counter
05	**DX**	Enables right station, also mixed rolls
06	**T1**	time to wait before the first label of the DX (in tenths of second)
07	**T2**	time to wait before the release of the second label DX (only with mixed roll on the DX station)

08	**T6**	Numeric value that controls the label's overhang from the blade on the right (DX) station
09	**SX**	Enables left station, also mixed rolls
10	**T3**	time to wait before the first label of the SX (in tenths of second)
11	**T4**	time to wait before the release of the second label SX (only with mixed roll on the SX station)
12	**T5**	Numeric value that controls the label's overhang from the blade on the left (SX) station
13	**SP**	enables searching spot. The adjacent value is the spot's minimum width
14	**P**	enables the date / lot marker
15	**D**	indicates the diameter of the container in mm (only ET12)

Warning: when the counter goes to zero bottles, the bottle is no longer being caught or, if already in the rollers, it turns but it is not labeled, press SEL to resume

To display the cursor, press once the SEL button or UP / DOWN button.

8.02.01 FUNCTION **P**

To select one program (from 0 to 49) scroll the cursor up to the value beside P, access the parameter in change-mode by pressing <**SEL**> button and modify the value by acting on <+/-> button. Save and exit with <**SEL**> button.

8.02.02 FUNCTION **Q (**SQUARE AND SHAPED FORMATS**)**

To activate the labelling function specific for square and shaped formats, scroll the cursor up to parameter Q, access the parameter in change-mode by pressing <**SEL**> button , then press <**+**> button: an asterisk appears beside Q. Save and exit with <**SEL**> button.

8.02.03 PARAMETER **PZ/B (**BOTTLES COUNTER**)**

To change the counter value, scroll the cursor up to the **PZ** parameter, access in change-mode by pressing <**SEL**> button, then press <**+**> button until the desired value is displayed. Save and exit with <**SEL**> button.
Once a bottle is labelled, the counter decreases. When it reaches zero, the machine stops: you need to set a new positive value in order to re-start the machine cycle.

If a negative value is set, the counter will decrease endlessly and the machine won't stop because the zero value will never be reached.

8.02.04 FUNCTION M: **MANUAL CHARGING OF THE CONTAINER**

This function can be used when a manual introduction of the container is requested, thus avoiding the automatic caption of the container itself into the rubber rollers: in this case the motorized upper roller moves up to its upper end in order to let the operator introduce the container by hand.
In this condition, to start labeling just press the PLUS button on the control panel so that the upper rollers comes down again on the container; after the labeling, the upper rollers moves up again and wait for a new container to be labeled.

To activate this function, scroll the cursor up to parameter M, access the parameter in change-mode by pressing <**SEL**> button , then press <+> button: an asterisk appears beside M. Save and exit with <**SEL**> button.

8.02.05 **DX ADJUSTMENTS: ENABLING RIGHT STATION**

On the row **DX** the display shows some values related with operation and adjustments of the right station.

To enable the right station, scroll the cursor up to DX parameter, access in change-mode by pressing <**SEL**> button, then press <+> button: an asterisk appears beside DX. Save and exit with <**SEL**> button.

Enabling combo reel (front and back label alternated on the same roll)

The labelling station can work with combo reels: in this case on the display two asterisks beside DX parameter will be shown. To enable this function, scroll the cursor up to DX parameter, access in change-mode by pressing <**SEL**> button, then press twice the <+> button: 2 asterisks appear beside DX. Save and exit with <**SEL**> button.

8.02.06 PARAMETER **T1**

This value changes the time to wait (in tenths of second) before the first label of the right station is peeled out. To be used to adjust the centering between front and back labels.
To set a new value, scroll the cursor up to **T1** parameter, access in change-mode by pressing <**SEL**> button, then press <+/-> buttons until the desired value is displayed. Save and exit with <**SEL**> button.

8.02.07 PARAMETER **T2 (ONLY WITH COMBO REEL)**

This value changes the time to wait (in tenths of second) before the second label of the right station is peeled out. To be used to adjust the centering between front and back labels.

To set a new value, scroll the cursor up to **T2** parameter, access in change-mode by pressing <**SEL**> button, then press <+/-> buttons until the desired value is displayed. Save and exit with <**SEL**> button.

8.02.08 **T6 PARAMETER**: LABEL'S OVERHANG FROM THE BLADE

This function allows the label's positioning on the blade for the right (DX) station.
As shown in photo 9.14 page 48, the correct label's overhang from the blade is 1-2 mm.

To set a new value, scroll the cursor up to **T6** parameter, access in change-mode by pressing <**SEL**> button, then press <+/-> buttons until the desired value is displayed.
Save and exit with <**SEL**> button.

8.02.09 **SX ADJUSTMENTS: ENABLING LEFT STATION**

On the row **SX** the display shows some values related with operation and adjustments of the left station.

To enable the left station, scroll the cursor up to **SX** parameter, access in change-mode by pressing <**SEL**> button, then press <+> button: an asterisk appears beside **SX**. Save and exit with <**SEL**> button.

Enabling combo reel (front and back label alternated on the same roll)

The labelling station can work with combo reels: in this case on the display two asterisks beside SX parameter will be shown. To enable this function, scroll the cursor up to **SX** parameter, access in change-mode by pressing <**SEL**> button, then press twice the <+> button: 2 asterisks appear beside SX. Save and exit with <**SEL**> button.

8.02.10 PARAMETER **T3**

This value changes the time to wait (in tenths of second) before the first label of the left station is peeled out. To be used to adjust the centering between front and back labels.

To set a new value, scroll the cursor up to **T3** parameter, access in change-mode by pressing <**SEL**> button, then press <+/-> buttons until the desired value is displayed. Save and exit with <**SEL**> button.

8.02.11 PARAMETER **T4 (ONLY WITH COMBO REEL)**

This value changes the time to wait (in tenths of second) before the second label of the left station is peeled out. To be used to adjust the centering between front and back labels.

To set a new value, scroll the cursor up to **T4** parameter, access in change-mode by pressing <**SEL**> button, then press <+/-> buttons until the desired value is displayed. Save and exit with <**SEL**> button.

8.02.12 **T5 PARAMETER**: LABEL'S OVERHANG FROM THE BLADE

This function allows the label's positioning on the blade for the left (SX) station.
As shown in photo 9.14 page 48, the correct label's overhang from the blade is 1-2 mm.

To set a new value, scroll the cursor up to **T5** parameter, access in change-mode by pressing <**SEL**> button, then press <+/-> buttons until the desired value is displayed.
Save and exit with <**SEL**> button.

8.02.13 FUNCTION **SP (SPOT DETECTION)**

This function enables the labelling mode with spot detection (a notch on the bottom, a relief on the glass, a spot on the label, etc.). The value next of SP caption corresponds to the **minimum** width of the reference mark to detect.

To enable the function, you need to set a **positive value**.

To change the value, scroll the cursor up to **SP** parameter, access in change-mode by pressing <**SEL**> button, then press <+/-> buttons until the desired value is displayed.
Save and exit with <**SEL**> button.

If the value is null, the function is disabled.

8.02.14 FUNCTION **P (ENABLING THE PRINTER)**

This function enables the printer working during the labelling cycle.
To enable the function, scroll the cursor up to **P** parameter, access in change-mode by pressing <**SEL**> button, then press <**+**> button: an asterisk appears beside **P**.
Save and exit with <**SEL**> button.

8.02.15 PARAMETER **D**

This parameter indicates the bottle diameter in millimeters.
To set a new value, scroll the cursor up to **D** parameter, access in change-mode by pressing <**SEL**> button, then press <+/-> buttons until the desired value is displayed. Save and exit with <**SEL**> button.

This value doesn't affect the labeling, but it's necessary for the software to calculate the right time for the container's capture and ejection.

8.03 SETUP menu

To access the SETUP page, immediately after turning on and before the display showing the work page, hold down the buttons UP / DOWN (ref. 4 and 5) for a few seconds.

The value in the line above the word SETUP (pictured 63) is the global counter of bottles packed, non-editable by the customer: to reset this value you must access the data machine and set to line 1) LANGUAGE the special value 100, then leave the machine data, shut down the emergency button and restart.

Within the page *setup* are two possible settings:

- Pressing button 1 (MINUS button) activates the output tests of the SX label;
- Pressing button 3 (PLUS button) activates the output tests of the DX label;
- Pressing button 5 (ARROW UP) activates the warming cycle of the motors;
- Pressing buttons 1 – 3 – 4 – 5 enters the inputs / 24V outputs test page, as shown below:

Warning: please make these tests without bottles and label reels on the machine, to prevent labels' waste.

By pressing the ARROW UP/DOWN buttons **you can test the 24 V output signals**; for example, the first output signal is the magnet of the automatic ejection and the second one is the printer.

To test the input signals it is necessary to act directly on the machine, activating photocells and sensors; by this way the numbers corresponding to the inputs will be shown in the left bottom side of the screen to indicate their correct functioning (the image shows inputs 0 – 2 – 4 active)

Here follows the list of the input signals to be tested:

0 – Label photocell on the right (DX) station
1 – Label photocell on the left (SX) station
2 – Cog-counter proximity for start cycle point
3 – Square bottle proximity
4 – Start photocell
5 – Spot sensor or label sensor

It is also possible to test the functioning of the motors: by pressing time after time the PLUS button or the MINUS button you can test in sequence:

1- Motor of the container's rotation
2- Motor of the right (DX) labelling station
3- Motor of the left (SX) labelling station
4- Not defined

To exit the setup hold buttons ARROW UP / DOWN again.

8.03.01 MOTORS PRE-HEATING CYCLE

This function enables the pre-heating cycle of all the motors installed on the machine in order to let them work at full speed before starting the labelling.

To activate the pre-heating function, please follow this procedure:

- Enter the SETUP page by pressing the ARROW KEYS for a few seconds.
- In the setup page, keep pressed for 10 seconds the UP ARROW KEY until motors start running: the upper sponge roller and the rubber rollers start rotating.
- The machine simulates 30 labelling cycles, then all motors stop (the rollers don't move anymore)
- Now the machine is ready to work at full speed: shut down the emergency button and restart.

8.04 Advanced functions

8.04.01 ELECTRONIC DETECTION OF A COLOURED SPOT (COD. C1A1402)

SECTION
BEING UPDATED

8.04.02 LABEL DETECTION ON LABELLED BOTTLES (COD. C1A1403)

By installing the optional group code C1A1403 the machine can detect the label on the bottle and apply a second label centering it in relation to the first label.

Warning: the label detection doesn't work when the first and the second label have the same height and the same width.

Photo 8.1 Label detection photocell

In case of transparent or extremely light glass, it is advisable not to position the photocell perpendicular to the bottle surface, but we suggest to slightly skew it as shown in the picture.

To change the position of the label detection photocell follows the steps below:

a) Set the photocell exactly perpendicular to the bottle, then start skewing slowly until the led turns off.

b) In this position (the led is off), move backwards of 5/10 ° in order to set the photocell in the reading condition (the led is on).

8.04.03 SIDE-NOTCH DETECTION ON THE BOTTOM

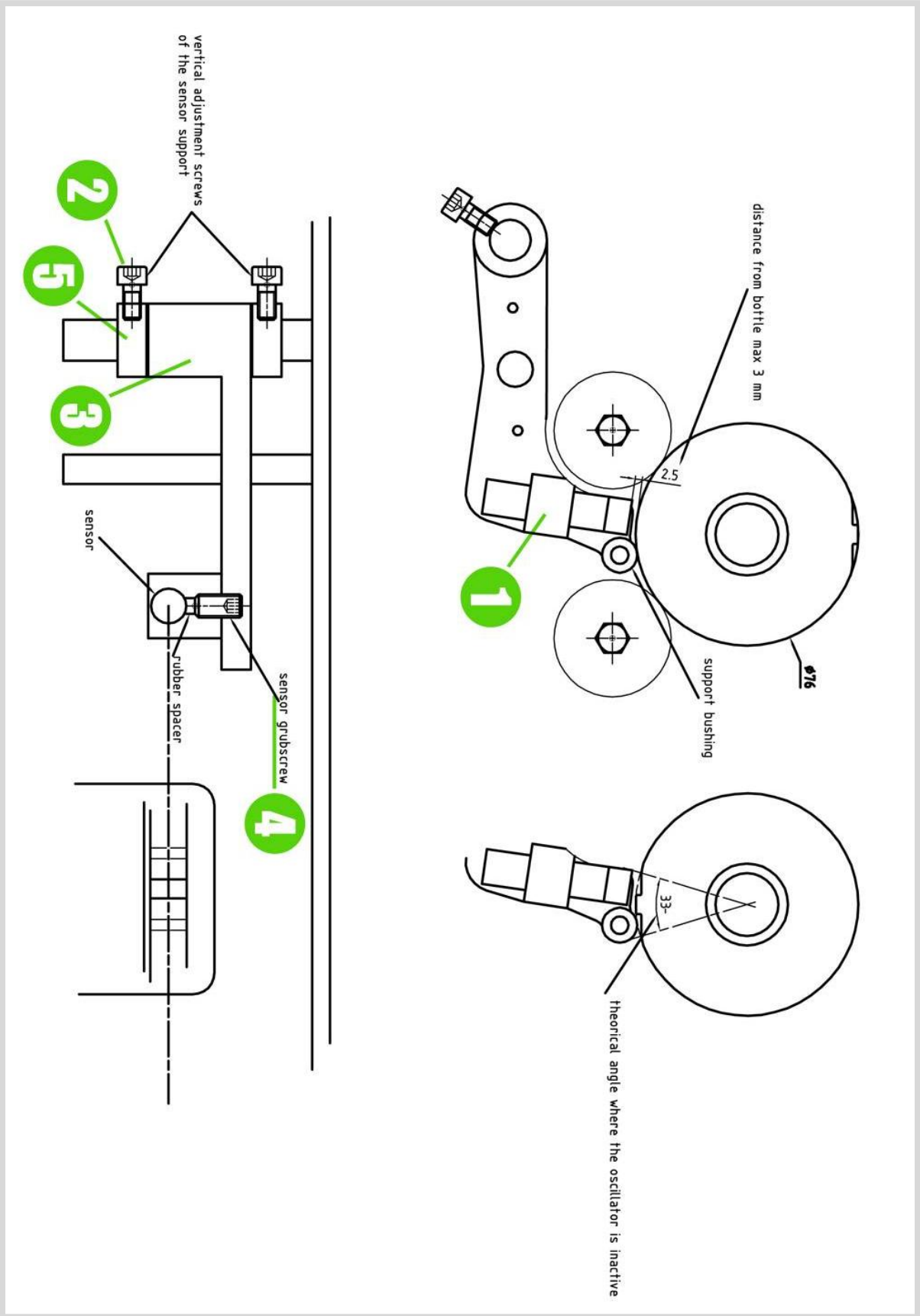


Figure 8.1 Technical drawing for side-notch detection

By installing the proper optional group the machine can detect the side notch on the bottom of the container. The standard regulation is suitable for bottle diameters between 70 mm and 83 mm and none of the mechanical components must be replaced.

For different measures, the notch detector must be re-positioned in order to keep a distance of 2.5 / 3.0 mm from the surface of the bottle, as shown in fig. 8.1 and picture 8.2; here follows detailed instructions:

a) Loosen the screw 2 and remove the ring 5
b) Remove the alluminium support 3
c) Unscrew the locking pin 4 and move the sensor in the right position according to the bottle format keeping a distance of 2.5 / 3.0 mm from the surface of the bottle, then tighten the pin again.
d) Re-insert the alluminium support 3 in its housing
e) Re-insert the ring 5 leaving a small play of 0.5 mm
f) Tighten the screw 2

Important: the detector's center must be aligned with the notch's center, as shown in figure 8.1; for this reason, if you move the input plate from its initial placement, you need to re-position the side-notch group as explained before.

Suggestion: when you work with containers without notch, apart from disabling the SP function on display (ref. par. 8.02.12), it is also recommended to release the support by rotating it 90° downward.

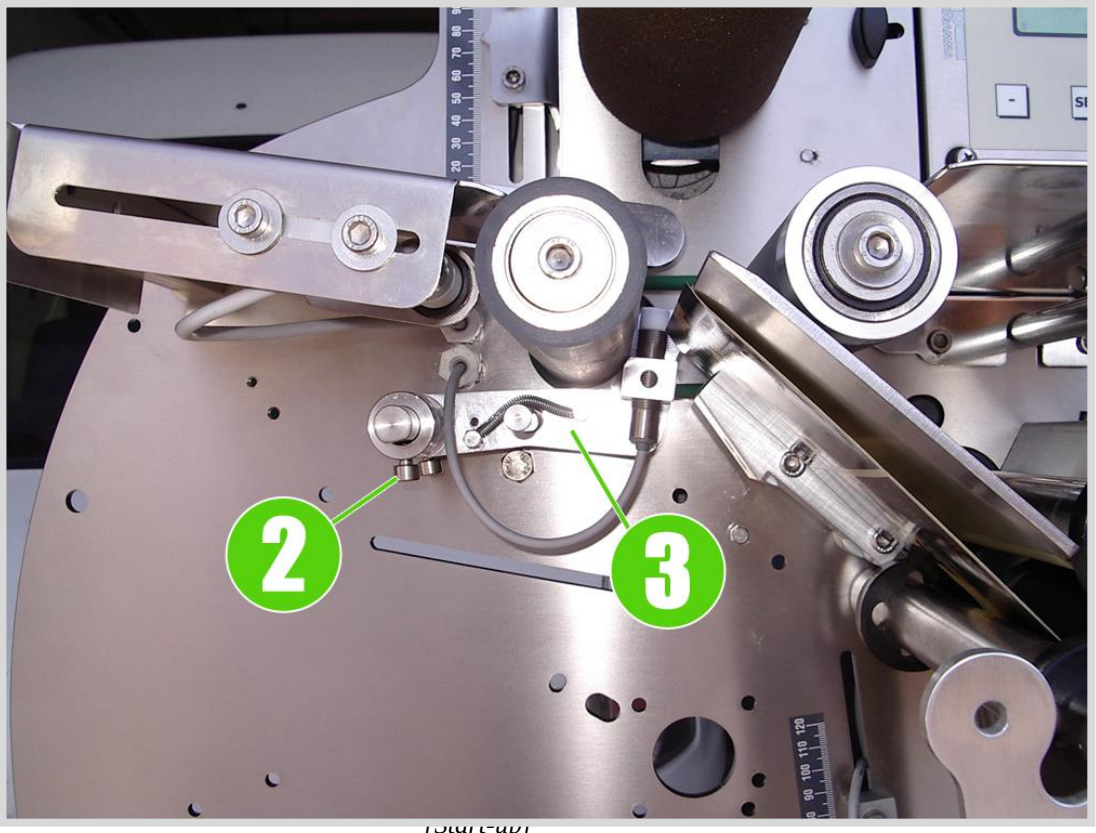


Photo 8.2 Support of the side-notch detection sensor

8.04.04 NOTCH DETECTION ON THE BOTTOM

By installing the proper optional group the machine can detect a notch on the bottom of the container in order to center all the labels on the container itself.

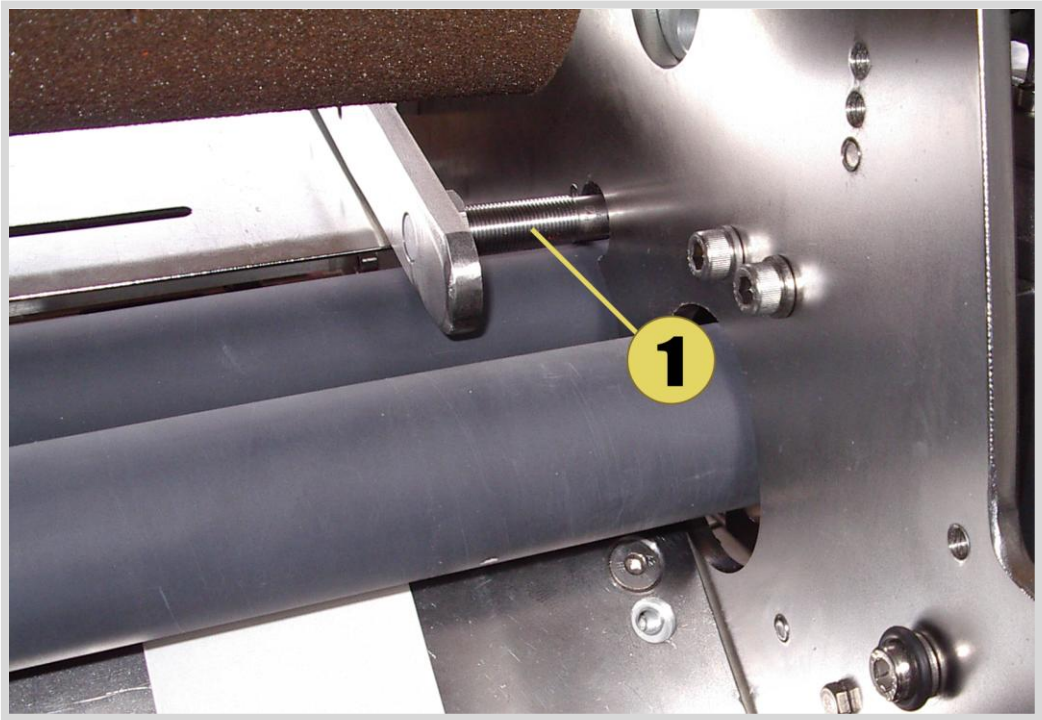


Photo 8.3 – Sensor for notch detection

This system uses an electronic sensor to detect the notch: the detection is performed directly on the bottom of the bottle; even if you change the label's height from the bottom, the notch detection will be always the same.

The sensor can work properly, without any mechanical adjustment, **with bottle diameters from 72 mm up to 83mm**; for different dimensions, please contact the constructor.

Warning: the bottle must lean against the bottom support of the input plate in order to allow the most accurate detection by the sensor. If the bottle is captured by the sponge stretching roller when it leans even only 2 mm far from the bottom support, the sensor will not detect any notch.

Unlike the mechanical notch detection, whose components are subject to wear because of the constant friction against the container' surface, the electronic sensor doesn't require any maintenance and allows constant and long-lasting functioning.

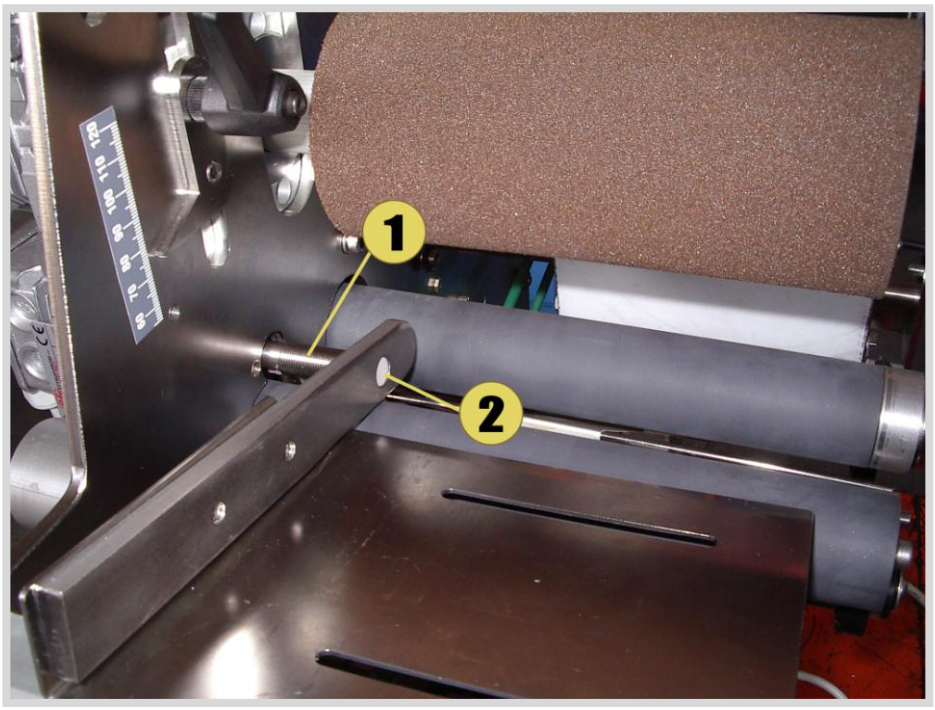


Photo 8.4 – key: 1) sensor 2) detection head

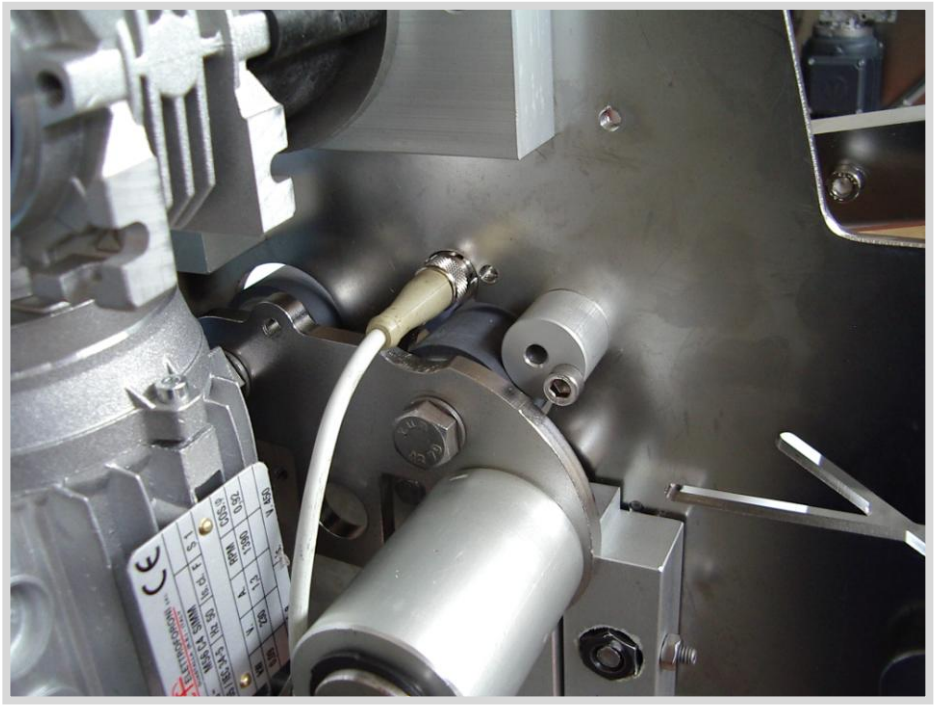


Photo 8.5 – Back view with notch detection connector

8.04.07 KIT FOR SQUARE OR SHAPED BOTTLES (COD. C1A1306)

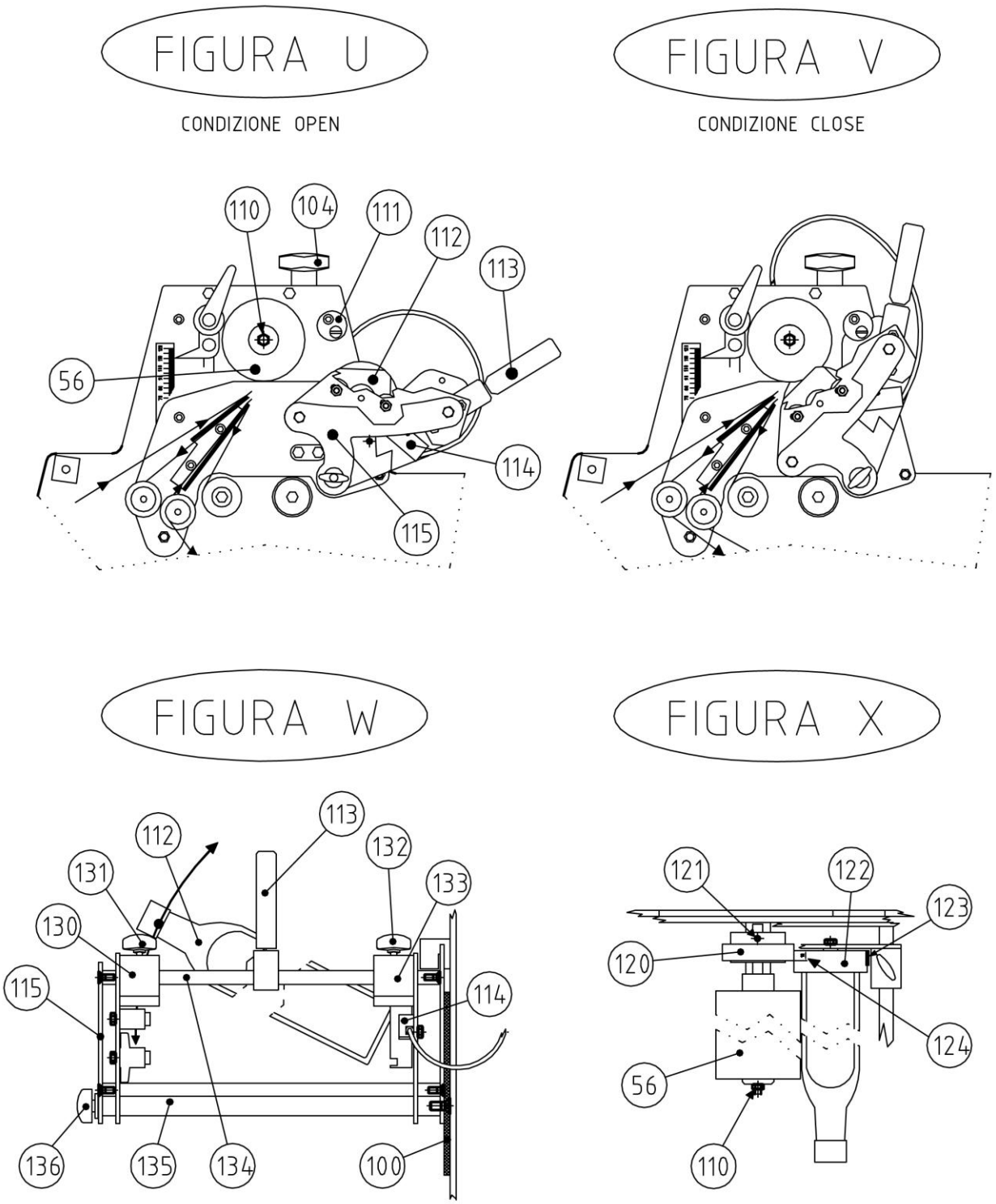


Figure 8.2 Technical drawings of the kit for square/shaped formats

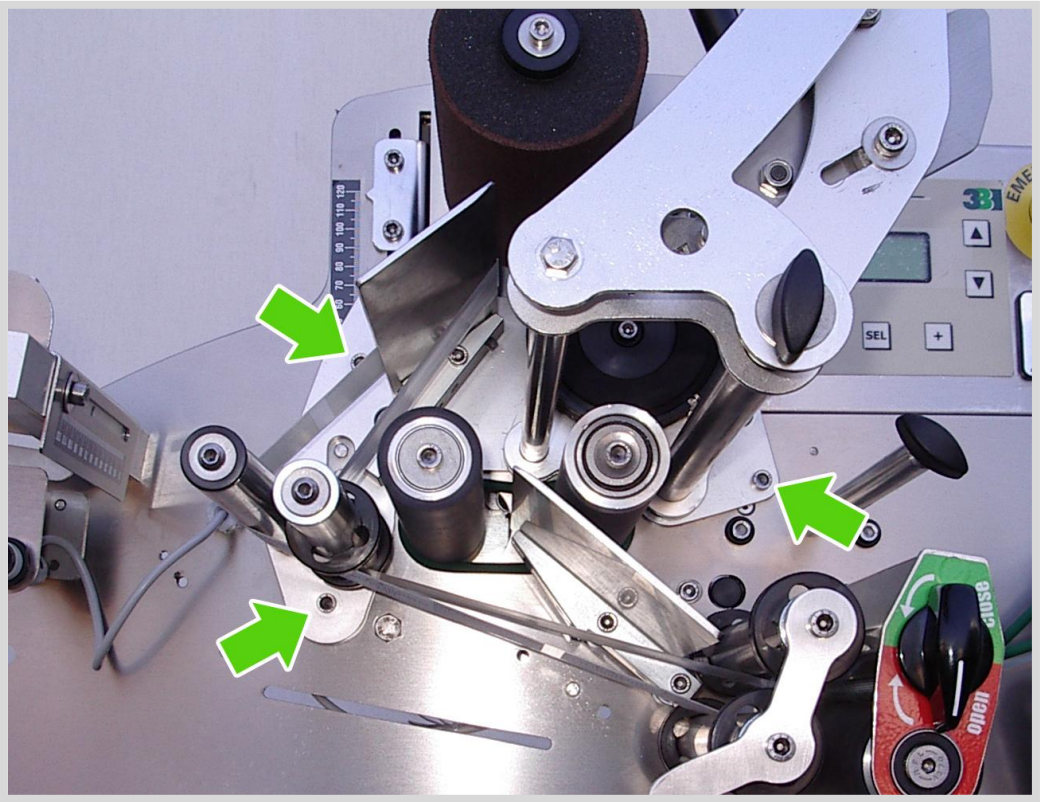


Photo 8.6. Basket fastening screws

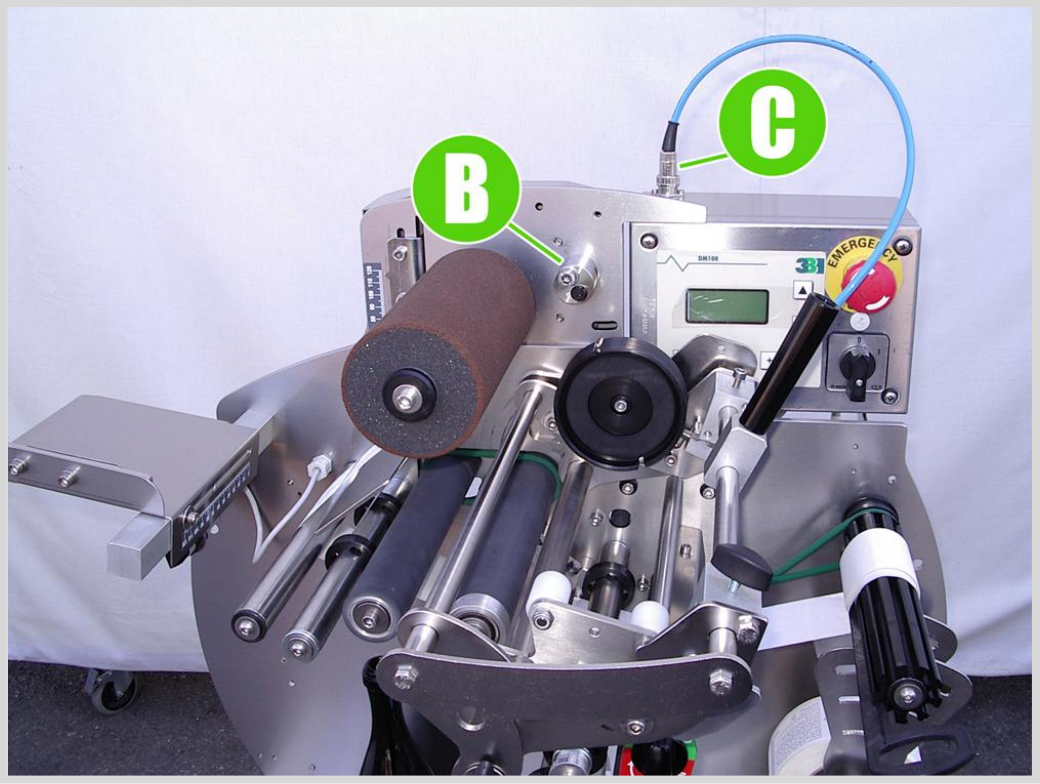


Photo 8.7. Basket installed

Here follows the procedure to install the basket for square and shaped containers:

1. Be sure that the main circuit breaker (ref. photo 7.1 pag. 15) is on the [0] position.
2. Move the sponge stretching roller up to its upper end (ref. photo 9.4.1 pag. 42) and lock it by moving the support A to its upper end (ref. photo 9.4.2 pag. 42)
3. Fix the basket for square and shaped formats by acting on the A, B, C screws shown in photo 8.6.
4. Connect the sensor cable to its proper plug on the control panel (see photo 8.7)
5. Insert the container to be labelled into the basket
6. Loosen the nut 110 fig. U in order to idle the upper sponge roller.
7. Loosen the screw photo 8.8 and move the support A along the pulley P in order to reach the desired label position from the bottom of the container, then tighten the screw again.
8. Loosen the knob B photo 8.9 to change the support position depending on the container to be labeled, then tighten the knob.
9. Turn the basket anticlockwise (ref. figure 8.2 condition CLOSE) and wedge it into the lock B (ref. photo 8.7)
10. Move the sponge stretching roller down, by holding it up with your hand, until it leans onto the bottle, then tighten the two support screws (ref. photo 9.4.2)

Warning: the driving pulley must lean against the bottom holding plate of the container making a contact of at least 10 mm (ref. Figure 8.2 section X); if not, loosen the locking pin of the pulley, arrange the correct placement and tighten the pin again.

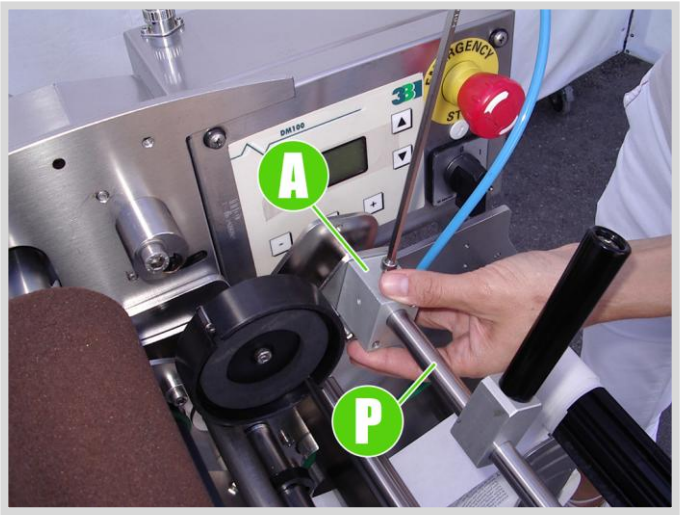


Photo 8.8 Adjusting label height from bottom

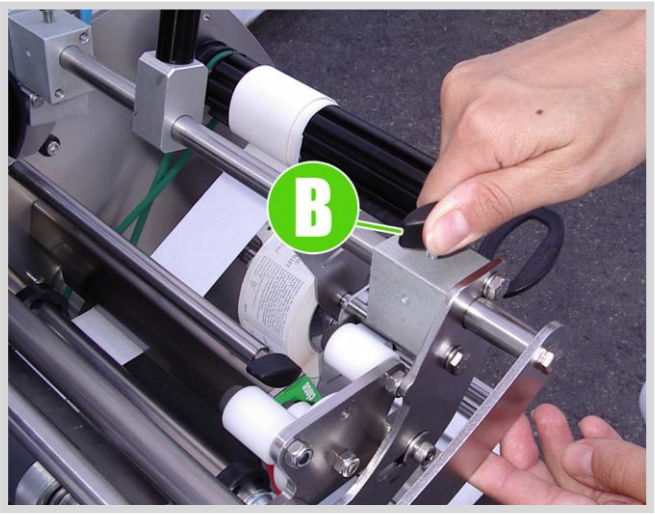


Photo 8.9 Adjusting upper bottle locker

Warning: once the container has been placed into the basket with its neck locked by the rolls, it must not have any axial movement. With conical bottles, where there is no driving pulley, the container must be inserted into the basket by pressing it 3-4 mm in the sponge disk of the bottom holding plate to ensure an effective grip of the container itself.

11. Install label reels on the machine following the paper path shown in the layout SCHEME 1 page 44.
12. If the left reel is present, please check the position of the label photocell: it must be put in the oblique loop.

Now you can procede with the labelling phase:

13. Turn the main circuit breaker on the position [1]: the display turns on and after a few seconds it shows the main menu (ref. par. 8.02), the sponge stretching roll starts moving.
14. Enable the function Q for square and shaped containers, as explained in par. 8.02.02
15. Turn the basket in CLOSE condition and wait the bottle to be labelled.
16. When the sponge stretching roll stops rotating, open the basket and take the container off.
17. Check label position and centering, if not correct see par. 9.04 et seq. for adjustments

FRONT AND BACK LABEL ON SEPARATE REELS (mod. LXT12-2)

- Enable the **function Q** for square and shaped containers (ref. Par. 8.02.02)
- Enable both **right** and **left** stations as explained in par. 8.02.05 and 8.02.09

PACKAGING WITH THREE LABELS

- Enable the **function Q** for square and shaped containers (ref. Par. 8.02.02)
- Enable both **right** and **left** stations as explained in par. 8.02.05 and 8.02.09, activating also **the combo reel function** on the proper station.
- Adjust labels centering by acting on T2/T4 values ref. par. 8.02.07 and 8.02.11

PACKAGING WITH FOUR LABELS

- Enable the **function Q** for square and shaped containers (ref. Par. 8.02.02)
- Enable both **right** and **left** stations as explained in par. 8.02.05 and 8.02.07, activating also **the combo reel function** on both stations.
- Adjust labels centering by acting on T1 and T2 values for the right station DX, on T3 and T4 values for left station SX, ref. par. 8.02.06 et seq.

CHAPTER 9

WORK CYCLE

The work phases for labelling machine LXT12 are listed below:

- Container loading
- Labelling
- Container discharge

9.01 Container loading

Photo 9.1 Container loading

Lean one bottle (up to 3 bottles) on the input plate: the container are automatically captured by the machine.

9.02 Labelling

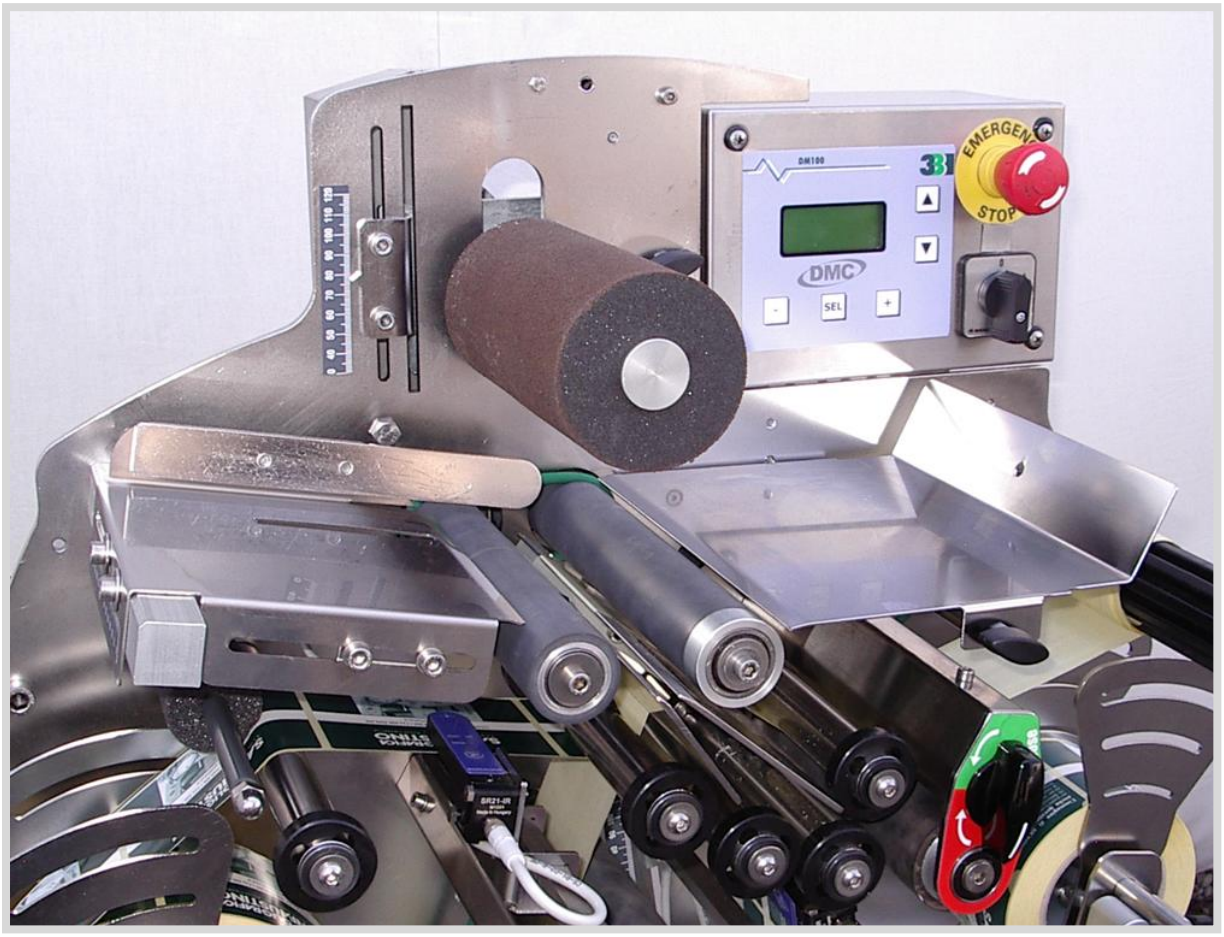


Photo 9.2 Labelling

Once the container captured, the machine applies all the labels as configured in the main menu.

- The bottle starts rotating and during this rotation all the labels are applied on it.

9.03 Container discharge

Photo 9.3 Container discharge

After the labelling phase, the container is automatically ejected and slides on the output plate.

9.04 Adjustments

9.04.01 CONTAINER DIAMETER ADJUSTMENT

Photo 9.4 Container diameter adjustment

To adjust the diameter of the container to be labelled, follow these steps:

a) Move the sponge stretching roll up to its upper end, forcing the knob, if present, to its left position in order to block the roll, as shown in picture 9.4;
b) Loosen the Allen screw and move the pointer to the correct value on the metric ruler beside, then tighten the screw again;
c) Holding the sponge stretching roll up with your hands, move the knob on the right;
d) Hold the roll up with your hand while it slides down to its working position, to avoid the roll falling suddenly and banging.

9.04.02 LABEL PHOTOCELL ADJUSTMENT

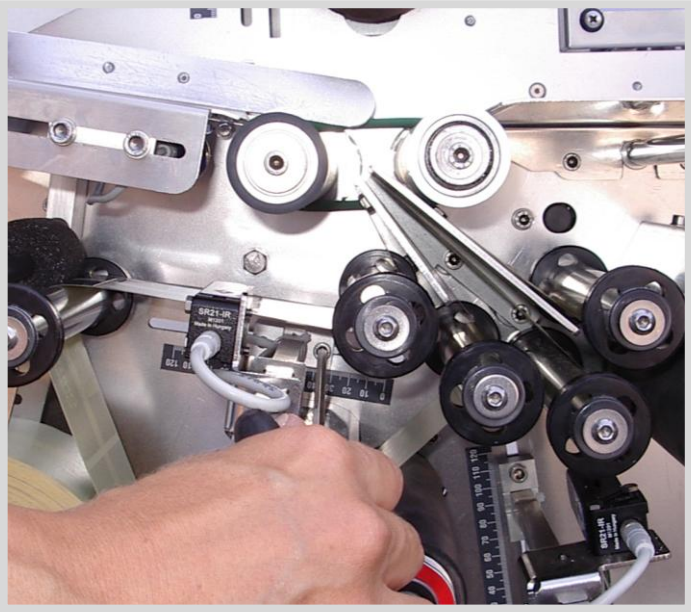


Photo 9.6A Left photocell adjustment

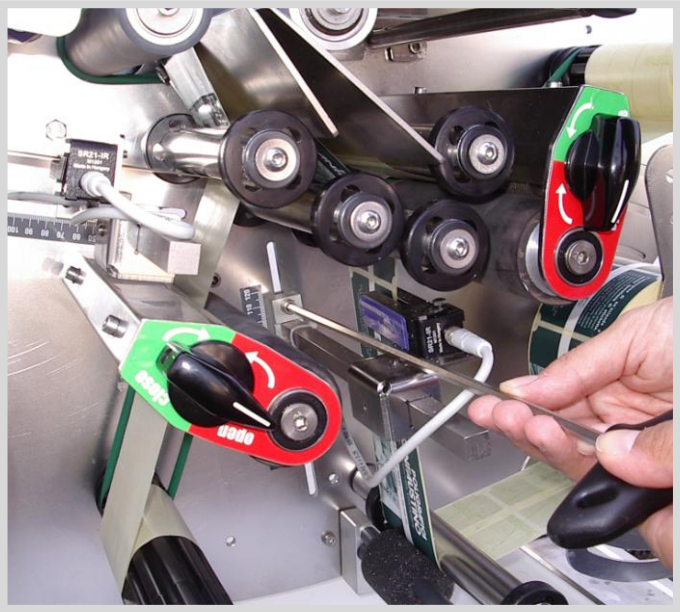


Photo 9.6B Right photocell adjustment

The machine is fully-adjusted when it leaves the factory.
However, should it prove necessary to adjust the photocell because a type of paper other than that for which it was originally set is used, proceed as follows:

For TELEMECANIQUE model

1) Power on the photocell: the LED 1 green turns on.
2) Scroll the paper band with labels into the fork and keep it well-stretched,
3) Position one label right by the reading head of the photocell.
4) Push SET button (the LED 1 green turns off) and keep it pressed until the LED 1 green starts flashing.
5) Scroll the paper band in order to make the photocell detect the paper support within one label and the next one.
6) Push SET button and wait the photocell to auto-calibrate; at the end only the green LED is turned on.
7) The calibration is complete: when one label is detected, the LED 2 yellow lights on..

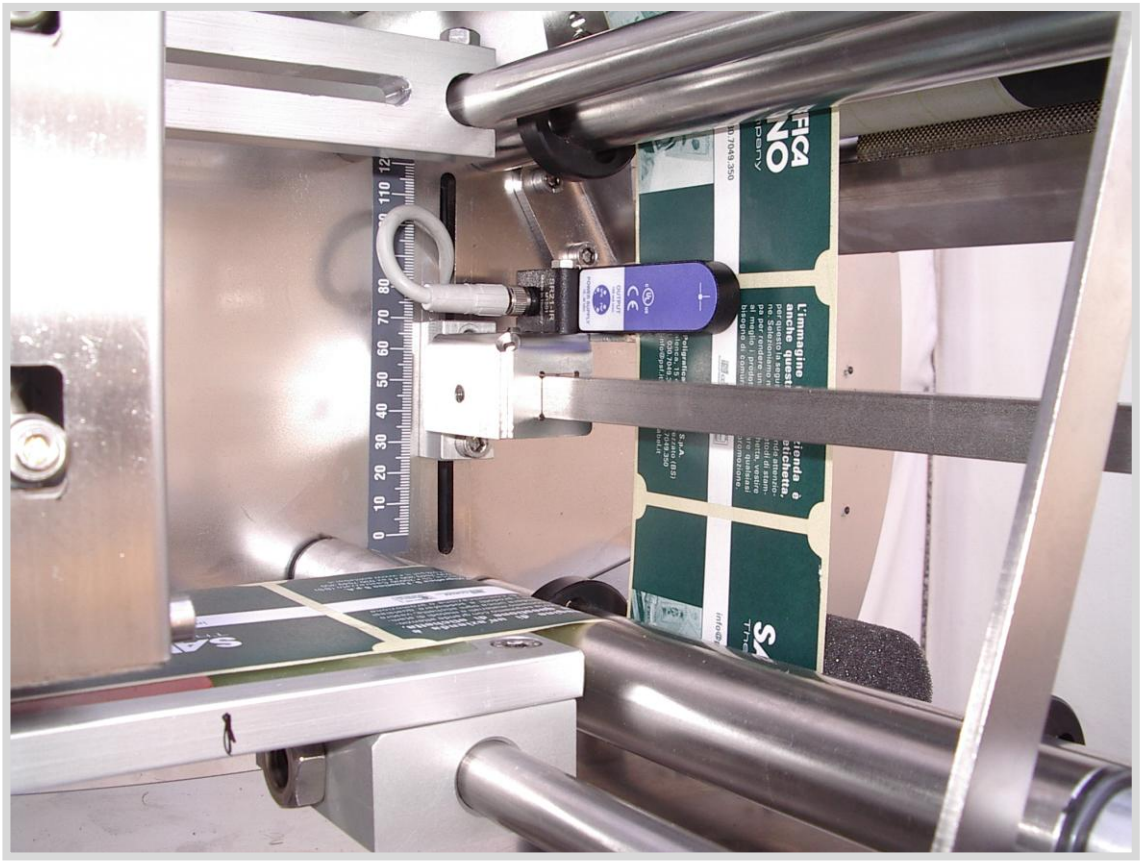


Photo 9.7 Reading position of the photocell

9.04.03 ADJUSTMENT OF THE LABEL HEIGHT FROM THE BOTTOM

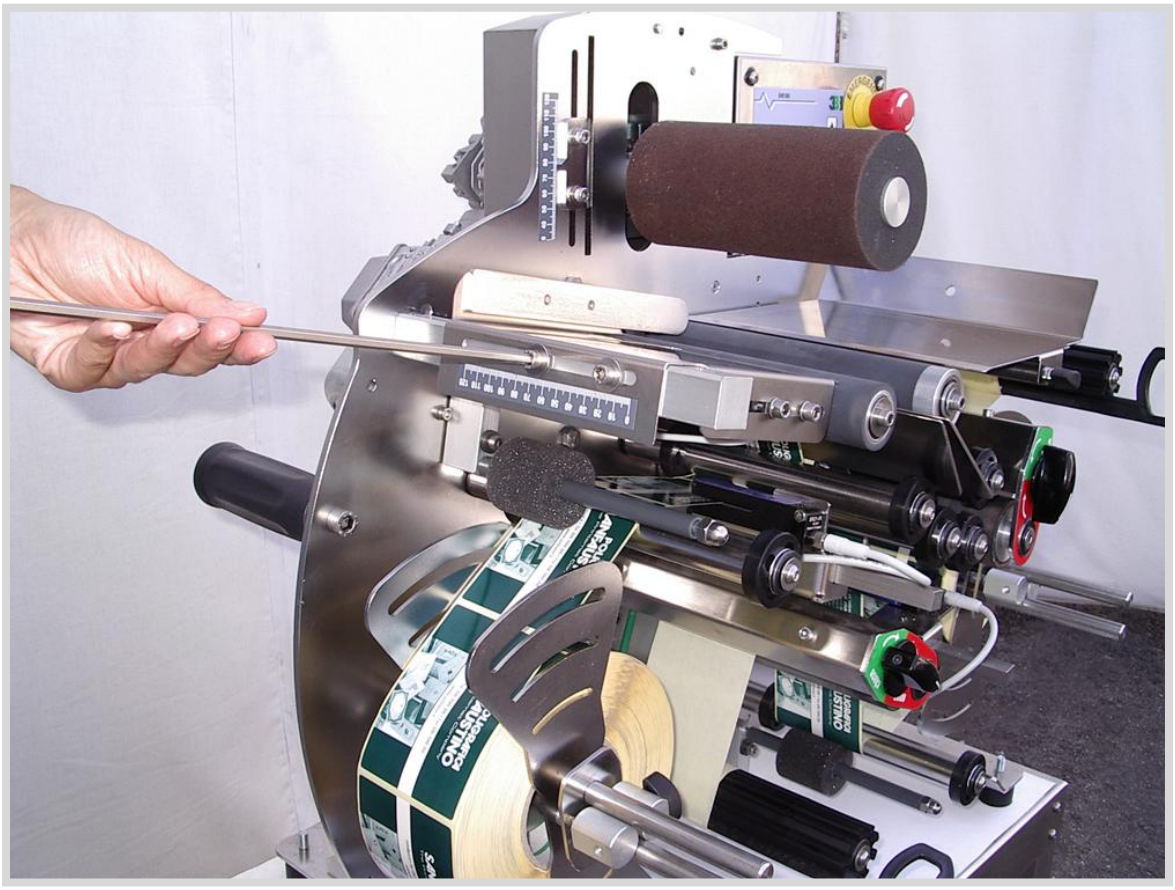
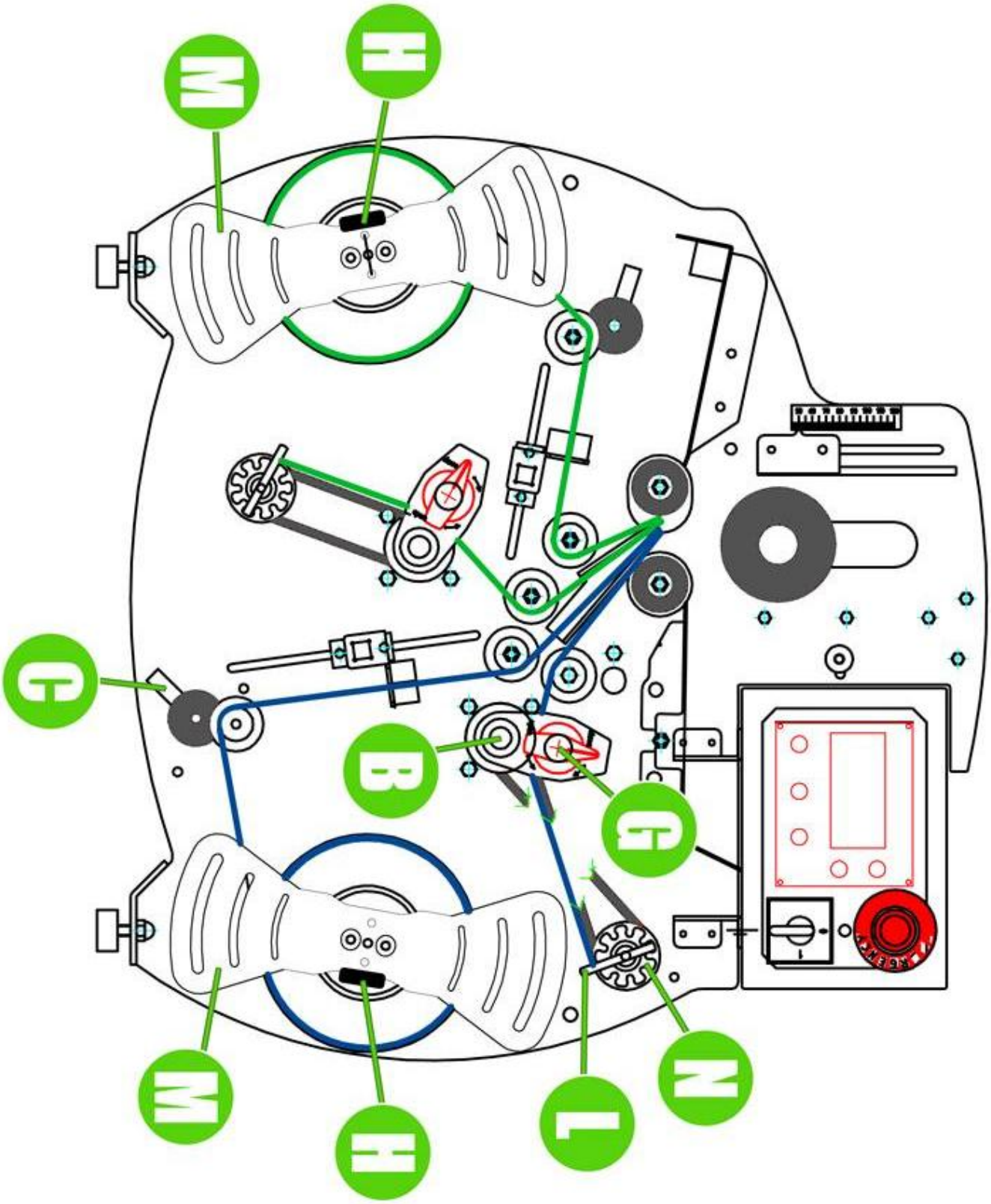
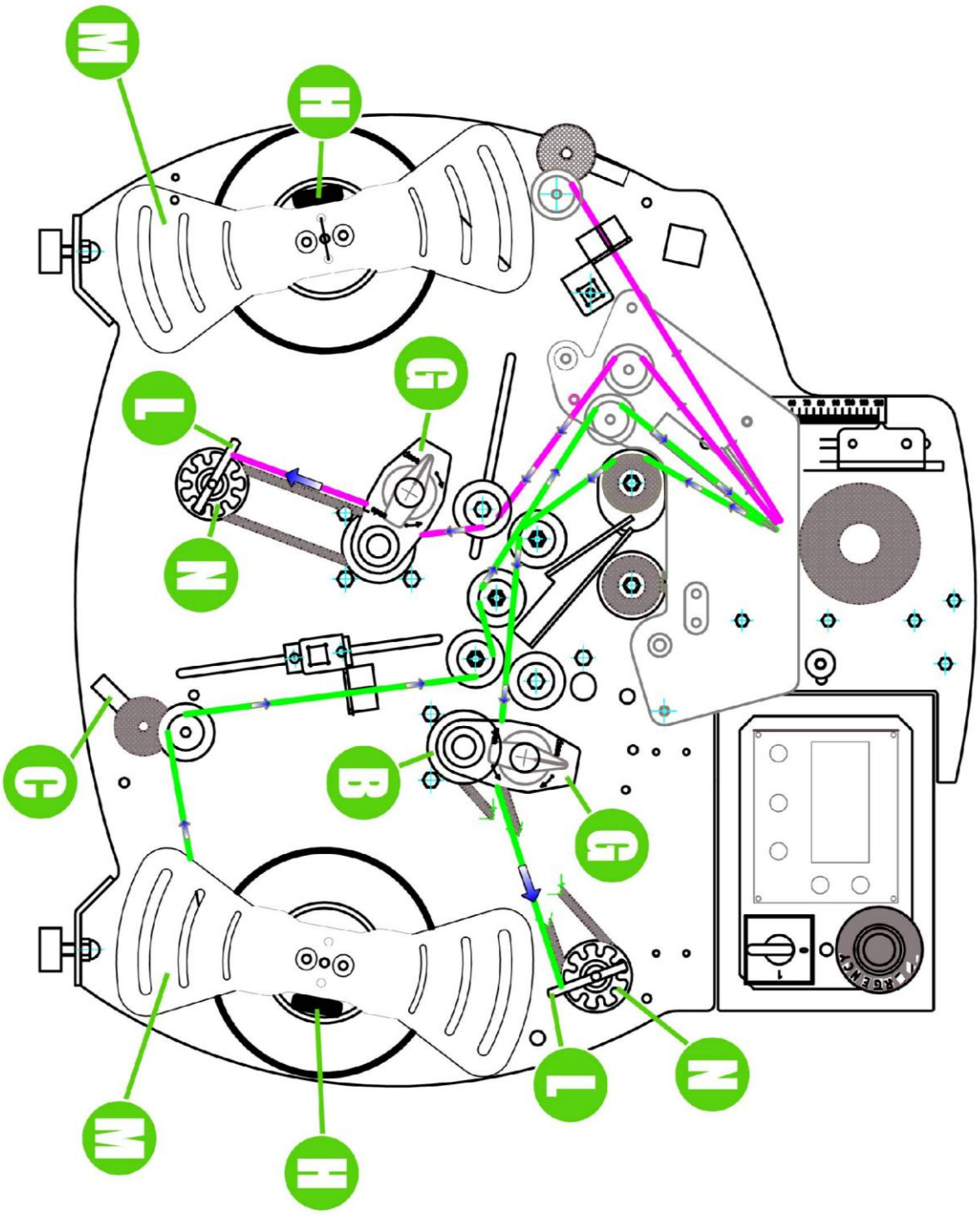


Photo 9.8 Adjusting label height from the bottom

To change the label height from the bottom of the container, loosen the Allen screws and move the input plate to reach the desired position, then tighten the screws again.



SCHEME 1
Standard paper path



SCHEME 2
Paper path with kit for square formats

9.04.04 INSERTING REELS

To insert the paper roll in the labelling stations, see SCHEME 1 page 44.

a) Loosen the knob H, remove the reel retaining plate M.
b) Open the tensioning roller C and the knurled roller G.
c) Before inserting the paper roll, check that the centering bearing C photo 9.12 is positioned in the middle of the reel; if not, loosen the Allen screw B photo 9.12 (the bigger of the two screws on the centering flange), move the bearing in the new position and retighten the Allen screw. Warning: do not tighten the screw to end, two turns of screw thread are enough.
d) Insert paper roll (photo 9.13) and scroll the band following the paper path as shown in SCHEME1.
e) Re-assemble the reel retaining plate M by leaning it against the paper roll and by pressing 3-4 mm on the compression springs. Warning: do not press completely the springs to avoid the paper roll being blocked and the scrolling of the paper being hard.
f) Scroll the paper to position one label out 1-2 mm from the blade as shown in photo 9.14
g) Retain the paper and press the knurled roller G against the rubber driving roller B.
h) Close the tensioning roller C.
i) Take the plastic locking rod L off from the paper retrieving roller N, make the paper sliding on it and re-insert the rod.

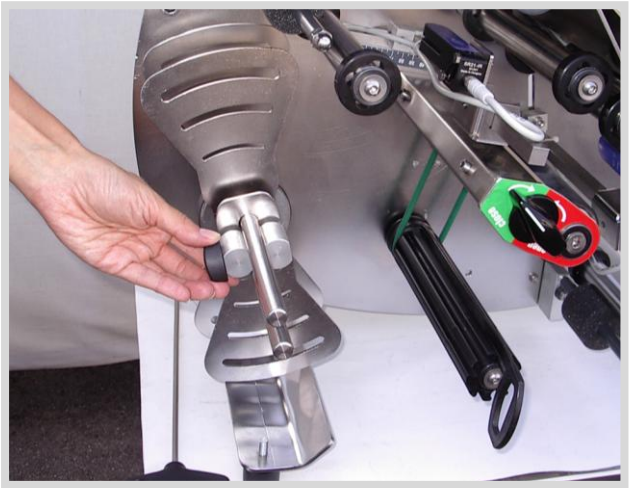


Photo 9.10

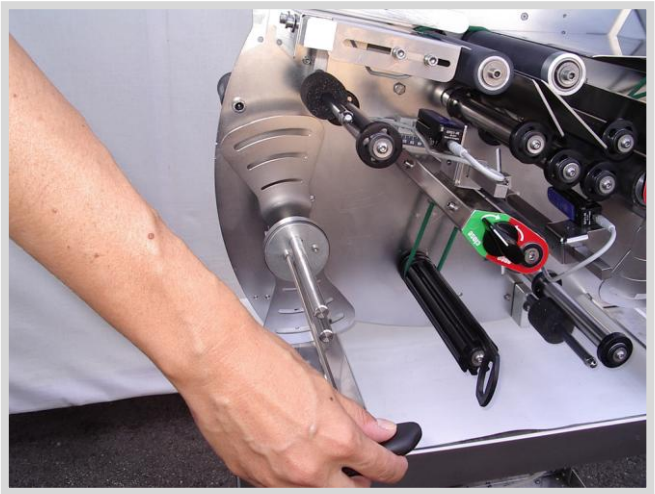


Photo 9.11

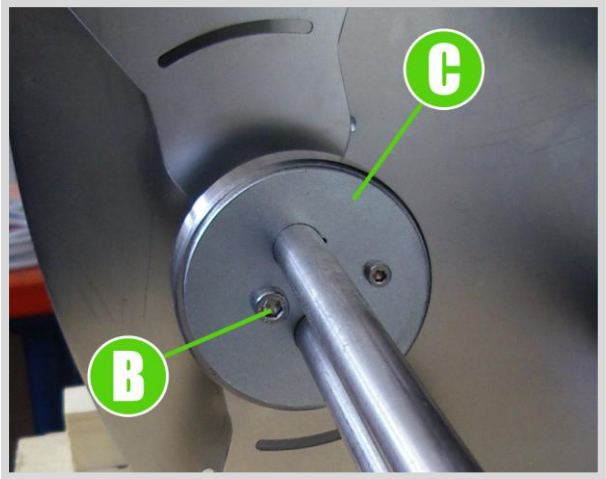


Photo 9.12

Photo 9.13

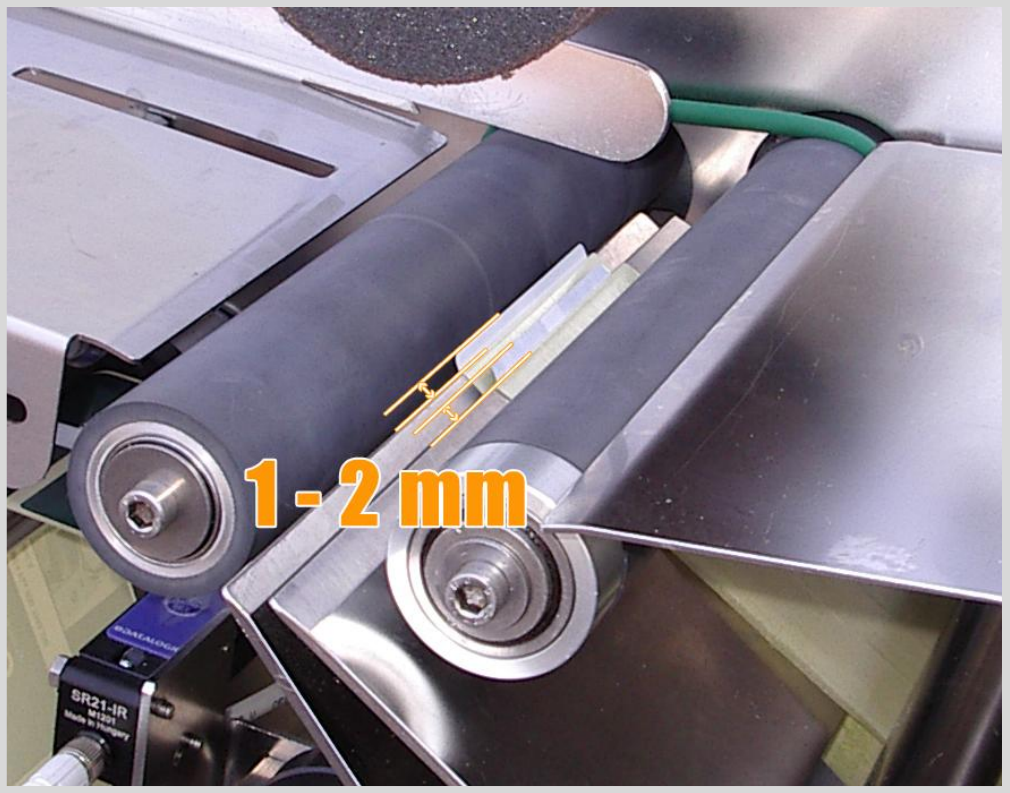


Photo 9.14 Correct label output from blade

9.04.05 BLOCKING AND RELEASING THE RUBBER DRIVING ROLLER

When installing the label reels, the rubber driving roll must be in OPEN condition in order to let the operator insert the paper following the right paper path shown in SCHEME 1 page 44. Once the paper inserted, block the driving roll turning the knob on CLOSE position, as shown in picture 9.18:

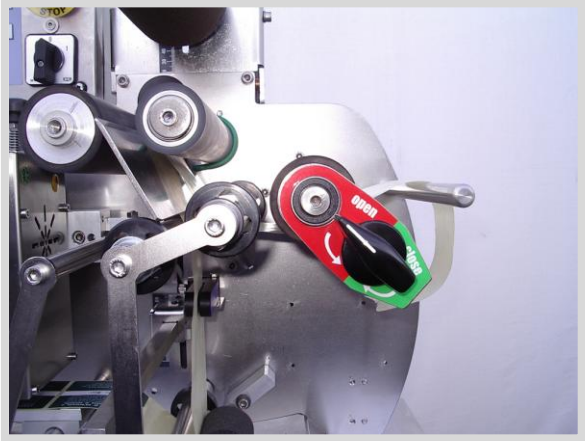


Photo 9.16 Rubber driving roller released (OPEN)

Photo 9.17 The knob being turned for blocking

Photo 9.18 Rubber driving roller blocked (CLOSE)

9.04.06 START PHOTOCELL ADJUSTMENT

This adjustment must be performed in SETUP mode (ref. par. 8.03)

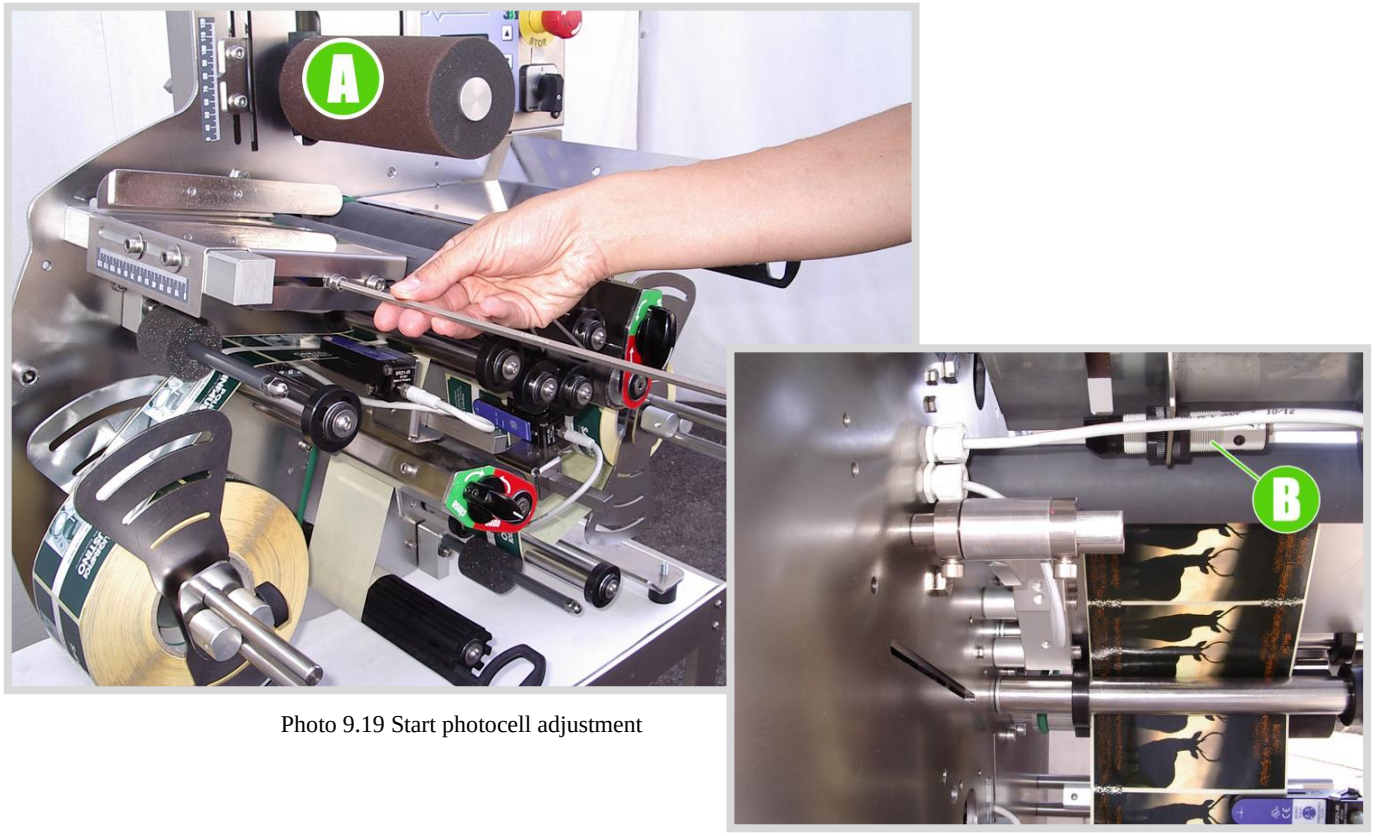


Photo 9.19 Start photocell adjustment

a) Check that the sponge stretching roll A is correctly adjusted in relation to the bottle diameter (ref. par. 9.04.01)
b) Take one bottle and lean it against the sponge roller
c) Check that the photocell B is turned on
d) Loosen the Allen screws and move the photocell until it can detect the bottle
e) Tighten the screws again.

9.04.07 HOW TO CHECK LABEL POSITIONING ON THE BLADE

This adjustment can be performed from the main working page

1. Press <-> button to eject one label from left station SX
2. Press <+> button to eject one label from left station DX.

Warning: The labels must be positioned 1-2 mm out of the blade as in picture 9.14. If not, act on the T5 and T6 parameters as explained in par. 8.02.08 et seq..

Important: in case of combo reels, make sure that the label photocell is reading the same label as that positioned 1-2 mm out of the blade.

9.04.08 LABELS AND SPOT CENTERING

MAIN CORRECTIONS ON CYLINDRICAL CONTAINERS

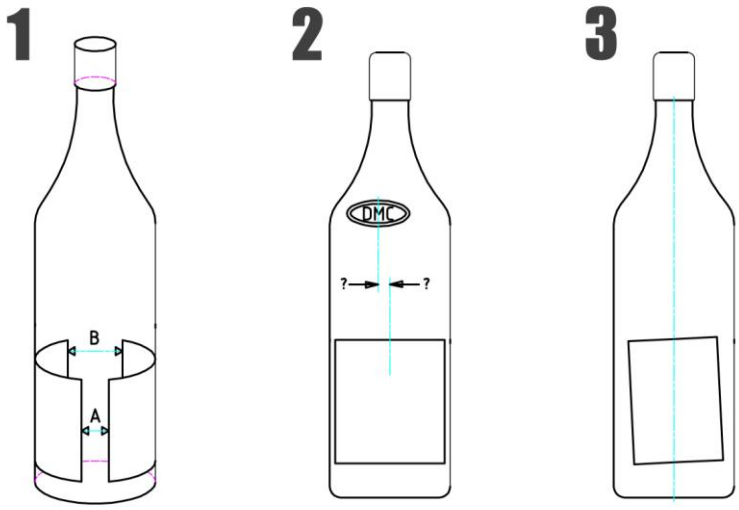


Figure 9.1 Corrections on cylindrical containers - Caption: 1) centering between label and back label 2) centering between label and spot 3) label alignment

Case 1) To adjust the centering between label and back label change T4 value on main menu (ref. par. 8.02.11)

Case 2) To adjust the centering between label and spot, enable SP function in the main menu as explained in par. 8.02.13. **Warning**: a spot detection kit must be installed on the machine.

Case 3) Loosen/Tighten the screw H picture 9.20 to modify the label alignment

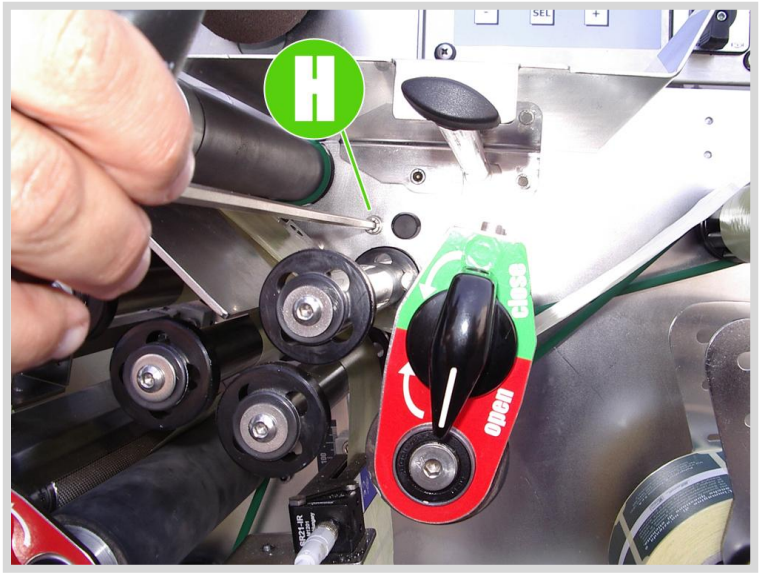


Photo 9.20 Label alignment on conical containers

MAIN CORRECTIONS ON CONICAL CONTAINERS

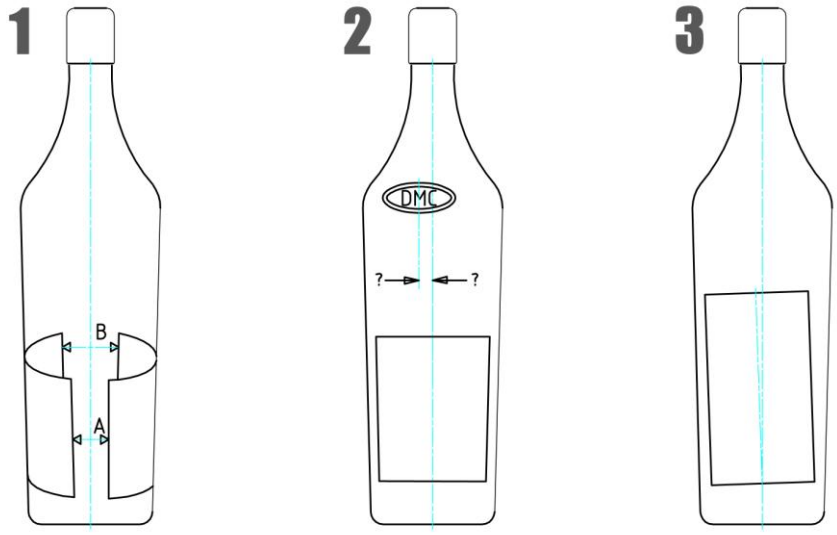


Figure 9.2 Adjustment on conical containers

Case 1) To adjust the centering between label and back label change T4 value on main menu (ref. par. 8.02.11).

Case 2) To adjust the centering between label and spot, enable SP function in the main menu as explained in par. 8.02.13. **Warning**: a spot detection kit must be installed on the machine.

Case 3) Loosen/Tighten the screw H picture 9.20 to modify the label alignment.

MAIN CORRECTION ON SQUARE CONTAINERS

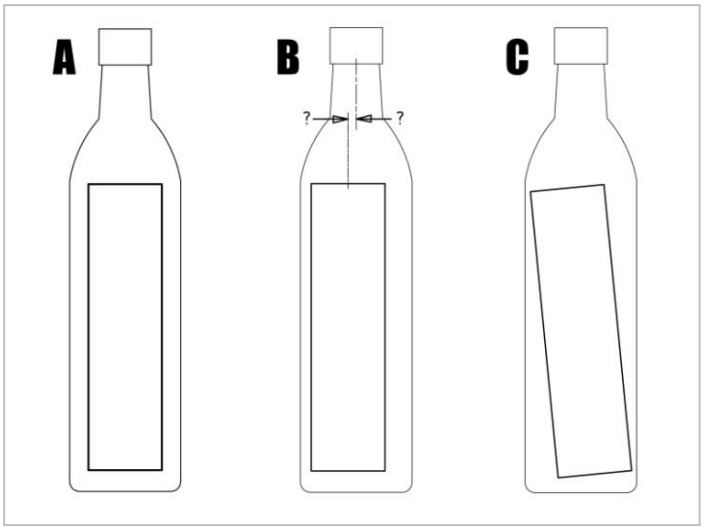


Figure 9.3 Adjustment on square containers

Case A) Correct labelling

Case B) To adjust the centering between label and spot, enable SP function in the main menu as explained in par. 8.02.13. **Warning**: a spot detection kit must be installed on the machine.

Case C) Move left/right the neck locking set by acting on the screws A and B as in picture 9.21 to adjust the label alignment.

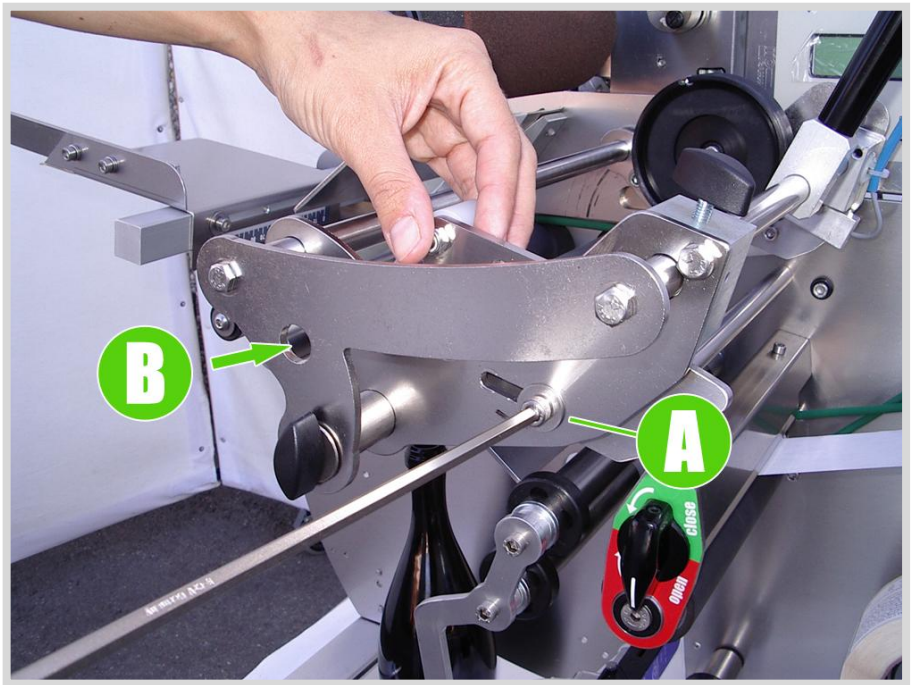


Photo 9.21 Adjustment of label alignment for square bottles

CHAPTER 10

MACHINE MAINTENANCE

10.01 Schedule checks and maintenance

a. Cleaning of the rubber driving roller B (scheme 1 page 44). Depending on the type of paper, every 5000/10000 labels, clean using a nitre diluent or acetone and a clean cloth.

b. Clean the label application rollers every 5000/10000 labels, using a nitre diluent or acetone and a clean cloth.

c. Replace the teflon adhesive, if present, on the peeler blade every 5000 labels.

d. Replace the paper tensioning sponge rollers every 5000 labels (ref. C scheme 1 page 44)

CHAPTER 11

TROUBLESHOOTING

01. THE LABEL IS NOT CENTERED VS. SPOT ON THE CONTAINER

- Check that the SP function is active (ref. par. 8.02.13 Function SP)

02. AS IT MOVES OVER THE PATH, THE PAPER TENDS TO LOOSEN

- Check that the tensioning roller (ref. C layout 1 page 44) is set against the paper winding path bushing
- Check that the label is 1-2 mm out of the blade (fig. 9.14)

03. THE PAPER BREAKS AS IT WINDS ALONG ITS PATH

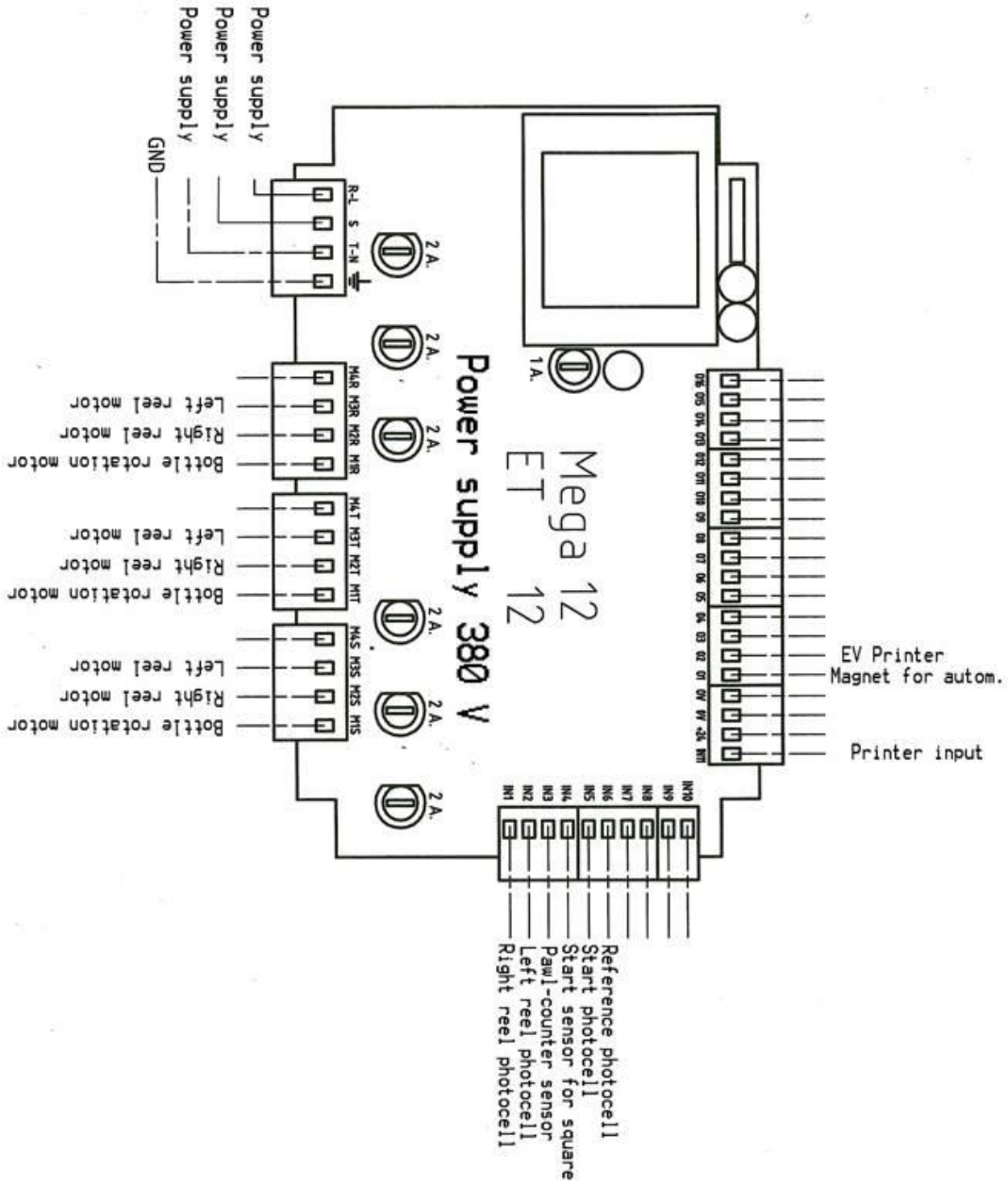
- Check that the plastic drive paper bushing doesn't fray the paper
- Check the paper winding path (layout 1 page 44)

04. WRINKLES ON THE RIGHT SIDE OF THE LABEL

- The most likely cause is that the glass in the container is warped; replace the sponge stretching roller with a roller of a more solid material (rubber).

CHAPTER 12

SCHEMES


Power supply
Power supply
Power supply
GND
R-L
S
T-N
2A.
2A.
2A.
2A.
2A.
2A.
1A.
Power supply 380 V
Mega 12
ET 12
M1R M2R M3R
M1T M2T M3T
M1S M2S M3S
Left reel motor
Right reel motor
Bottle rotation motor
Left reel motor
Right reel motor
Bottle rotation motor
Left reel motor
Right reel motor
Bottle rotation motor
EV Printer
Magnet for autom.
Printer input
IN1
IN2
IN3
IN4
IN5
IN6
IN7
IN8
IN9
IN10
Reference photocell
Start photocell
Start sensor for square
Pawl-counter sensor
Left reel photocell
Right reel photocell