



IMPORTANT

Keep this service manual to hand during the machine/
equipment's working life

MODULE 40/60/90/120

user manual

ENGLISH

Serial number	Edition 0 09-2003

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GENERAL AND SAFETY INFORMATION

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PURPOSE OF THE MANUAL

The manufacturer has developed this manual, which is an integral part of the machine, to provide the necessary information to those who are authorized to interact with it during the course of its expected life.

In addition to adopting good usage techniques, the recipients of this information must carefully read and rigorously apply it. The manufacturer has written this information in its original language (Italian) and it may be translated in other languages to satisfy legal and/or commercial requirements.

A little time spent reading this information will allow you to avoid jeopardizing the health and safety of yourself and others and causing property damage. In the event that this manual contains supplementary information about the actual set-up of the machine, it will not interfere with your reading.

Keep this manual for the machine's entire lifetime, in a known and easily accessible place, so that it will always be available when it needs to be consulted.

The manufacturer reserves the right to make modifications without any obligation to provide

advance notice.

Several symbols, whose meaning will be described below, have been adopted to emphasize some particularly important parts of the text or to indicate important specifications.

 **Danger - Warning**
Indicates situations of serious danger that, if ignored, could seriously jeopardize the health and safety of yourself and others.

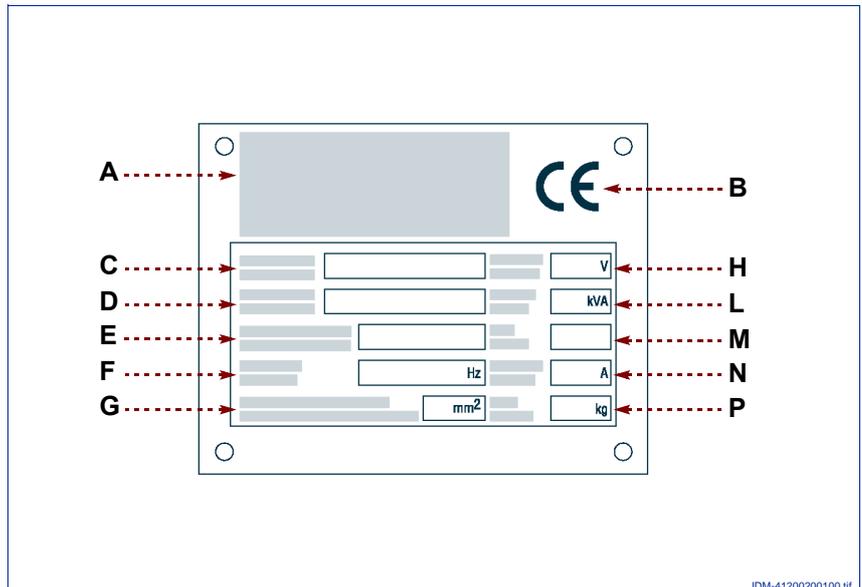
 **Caution - Precaution**
Indicates that it is necessary to adopt the appropriate behavior to avoid jeopardizing the health and safety of yourself and others as well as not causing property damage.

 **Important**
Indicates particularly important technical information that should not be overlooked.

IDENTIFICATION OF MANUFACTURER AND MACHINE

The identification plate shown is directly attached to the machine. It shows the references and all indispensable instructions for safe operation.

- A) Identification of manufacturer.
- B) CE conformity marking.
- C) Machine model.
- D) Serial number.
- E) Year of manufacture.
- F) Mains supply frequency.
- G) Size of power cables.
- H) Mains supply voltage.
- L) Electrical consumption.
- M) Number of phases.
- N) Electrical current.
- P) Weight of machine.



GLOSSARY AND TERMINOLOGY

We describe several recurring terms in the manual so as to provide a more complete understanding on their meaning.

Installer: a technician selected and authorized by the manufacturer from among those who possess the requirements for installing and testing the machine.

Regular maintenance: the total of all operations necessary for maintaining the machine at the appropriate level of functionality and efficiency. Normally, these operations are scheduled by the manufacturer who defines the necessary skills and the intervention methods.

Extraordinary maintenance: the total of all

operations necessary for maintaining the machine at the appropriate level of functionality and efficiency. These operations are not scheduled by the manufacturer and must be performed by the line manager.

Operator: a trained, authorized person who is selected from among those possessing the requirements, skills and information necessary for using and overseeing the machine.

System manager: a technician selected and authorized to oversee all organizational and operational aspects of the persons assigned to the system and its productive activities.

METHODS FOR REQUESTING ASSISTANCE

Contact the manufacturer's Service Department for any need.
For any request for technical support having to do with

the machine, provide the information shown on the identification plate, the approximate hours of use and the type of defect encountered.

ACCOMPANYING DOCUMENTATION

The customer is being provided with the indicated documentation in addition to this manual.

- Electrical diagram
- Spare parts

SAFETY REGULATIONS

General rules

- During the design and construction phase, the manufacturer has paid particular attention to those aspects that could be hazardous to the safety and health of those working with the machine. In addition to observing current law on the subject, the manufacturer has following "good construction practices." The purpose of this information is to sensitize users to the need to pay particular attention to prevent all other risks. There is no alternative to common sense. All operators working with the machine are responsible for safety.
- Carefully read the instructions in the manual provided and those directly applied, especially

- those regarding safety. A little time spent reading will spare you unpleasant incidents; it is always too late when you remember what you should have done after an accident has already happened.
- Inserting this machine into a system requires an overall plan that keeps in mind the requirements of "good practice," as well as laws and regulations. Particular attention should be paid to all the instructions and technical information provided by the manufacturer.
- Pay attention to the meanings of the applied plates; their shape and color are meaningful for safety purposes. Keep them legible and observe the information shown.

GENERAL AND SAFETY INFORMATION

- Do not tamper with, circumvent, remove or bypass the installed safety devices. Failure to observe this requirement can cause series risks to the safety and health of yourself and others.
- The personnel who perform any type of intervention throughout the entire life of the machine must have specific technical skills, particular abilities and recognized, earned experience in the specific sector. The failure to observe these requirements can damage the health and safety of yourself and others.
- During operation, use only the clothing and/or individual protective devices indicated in the instructions for use provided by the manufacturer and those required by current occupational safety regulations.
- During normal use or for any intervention, maintain the perimeter spaces, especially access to the controls, under conditions adequate to prevent risks to the safety and health of yourself and others.
- Several phases may require the assistance of one or more helpers. In these cases it will be a good idea to train them and adequately inform them about the type of activity to perform so as not to cause harm to the safety and health of yourself and others.

Rules for handling and installation

- Lift and handle the machine with respect for the information shown directly on the packing, on the machine and in the use instructions provided by the manufacturer.
- The personnel who load, unload and handle the machine must have ability and earned and recognized experience in the specific sector and must have mastery of the lifting means to be used.
- The machine must be lifted and transported using equipment of adequate capacity and anchoring the machine at the points provided by the manufacturer. Those who are authorized to perform such operations must have specific abilities and experience for the purpose of safeguarding their safety and that of the other persons involved.
- Before moving the vehicle, make sure that the machine and its components are adequately anchored and that there shape does not exceed the maximum anticipated dimensions. If necessary provide the appropriate signs.
- All the installation phases must be taken in account, starting the with the creation of an overall plan. In addition to defining the installation site, before beginning these phases the person authorized to perform these operations must, if necessary, actuate a “safety plan” to protect those directly

involved from injury and to rigorously apply all the laws, with particular reference to those regarding mobile job sites.

- During the installation phase, respect the perimeter spaces indicated by the manufacturer, also keeping in mind all the surrounding work activities. This requirement should also be implemented with respect for current law on the subject of occupational safety.
- Installation and hook-ups should be performed conforming to the manufacturer's instructions. The individual responsible must also take in account the legal and regulatory requirements, performing all installation and hook-up operations in a workman-like manner. When the installation is completed, but before beginning to use the machine, he must make a general inspection to verify that these requirements have been respected.

Rules for operation and use

- In addition to being suitably documented and trained in the use of the machine, the operator must possess the necessary abilities and skills for the type of work to be performed.
- Even after being appropriately documented, at the first use the operator should simulate some test maneuvers, if necessary, to identify the controls and their main functions, especially those relative to starting and stopping.
- The machine is only to be used by for those purposes anticipated by the maker. Using the machine for improper purposes can jeopardize the safety and health of yourself and others and cause property damage.
- The machine has been designed and constructed to satisfy all the operating conditions indicated by the manufacturer. Tampering with any device to achieve performance other than that anticipated can jeopardize the safety and health of yourself and others and cause property damage.
- Do not use the machine unless all safety devices are perfectly installed and in working order. Failure to observe this requirement can cause series risks to the safety and health of yourself and others.

Rules for adjustment and maintenance

- **Maintain** the machine in perfect working order, performing the scheduled maintenance required by the manufacturer. Good maintenance will allow you to achieve better performance, longer working life and constant observance of safety standards.
- **Before** performing any maintenance or adjustments, activate all safety devices provided and evaluate whether or not it is necessary to inform the personnel who are working on and around the machine. In particular, place suitable signs around the perimeter to prevent access to all those devices that, if activated, could cause conditions of unexpected danger, damaging the safety and health of yourself and others.
- **Maintenance** and adjustments must be performed by authorized personnel, who must provide all necessary safety conditions and observe the indicated procedures.
- **All** maintenance interventions that require a precise skill or particular ability must be performed exclusively by qualified personnel with recognized experience earned in the specific intervention sector.
- **When** performing maintenance in areas that are dangerous or not easily accessible, provide adequate safety conditions for yourself and others, following current occupational safety law.
- **Replace** worn parts with original replacement parts. Use the oils and greases shown in the manual. All this will ensure that the system performs at the expected operational and safety level.
- **Do not** discard polluting materials into the environment; dispose of them with respect for current law.

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IMPORTANT FOR SAFETY

The information found in this booklet is relevant to the functional aspects of the operator unit installed on the machine. However, the safety regulations found in Booklet 1 and those indicated with appropriate symbols

must be carefully **read for personnel safety**. Discretion is invaluable; safety is also in the hands of all the operators who interact with the machine.

TECHNICAL INFORMATION

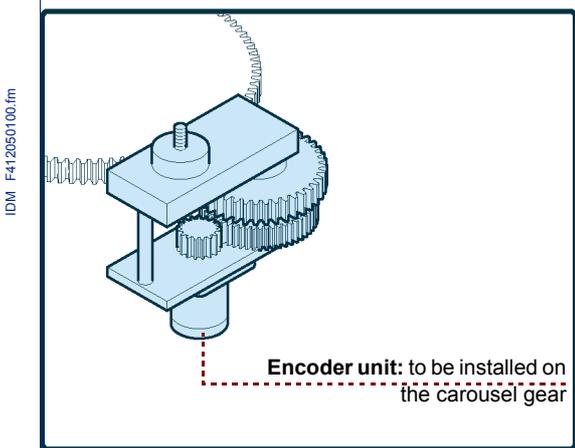
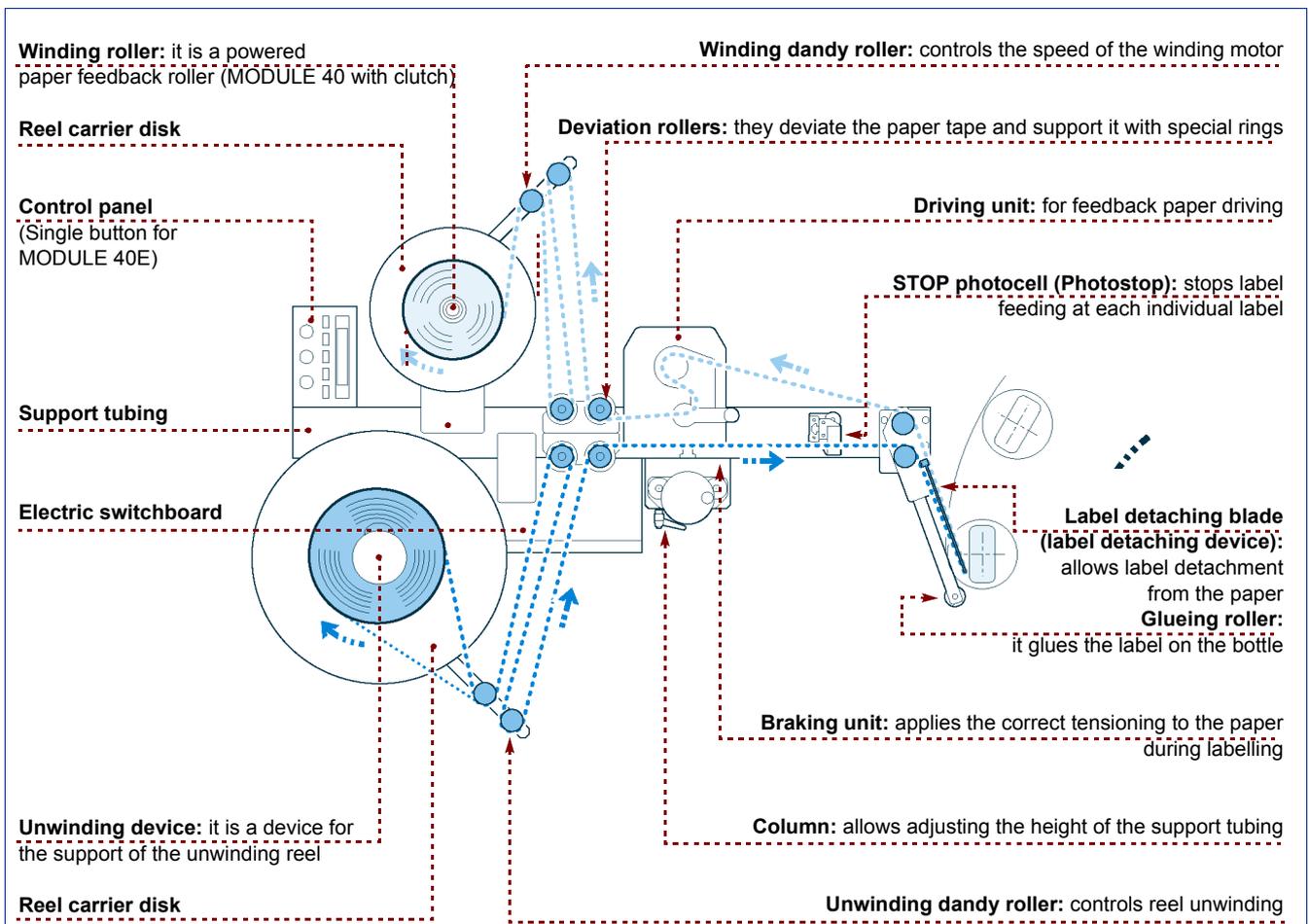
DESCRIPTION OF THE MACHINE

This machine is a labeling unit for attaching wrap-around and flat self-adhesive labels to cylindrical, rectangular or oval containers with straight or slightly tapered sides. **The machine is not suitable for use with containers whose sides have complex curvatures (i.e. concave or convex).**

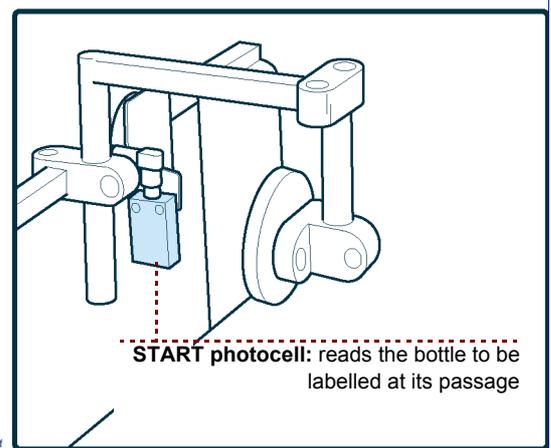
The labels are applied as they are detached from an unwinding reel of previously-prepared backing paper.

The labeling unit is not an independent machine, it is designed to be incorporated in a machine made by a third party or on a more complex machine produced by the labeling unit's manufacturer.

It is equipped with a control panel where cycle parameters can be set up.



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The machine high versatility does not allow considering all the variants; nonetheless, the basic operation principle is not altered.

The high productivity and long autonomy of operation of this machine make it suitable for installation in industrial environments, within a linear or rotation labelling machine.

chine.

This machine does not require the constant presence of an operator.

The only necessary supervision includes functionality checking operations, any necessary adjustment and the replacement of the run out reel.

DIFFERENT CONFIGURATIONS (VERSIONS)

The machine can have the following configurations, for specific needs:

MODULE"40": rated surface speed 40 m/min;

MODULE"60": rated surface speed 60 m/min;

MODULE"90": rated surface speed 90 m/min;

MODULE"120": rated surface speed 120 m/min;

"DX" VERSION: carousel clockwise rotation;

"SX" VERSION: carousel anticlockwise rotation;

"150" SIZE: for max 150 mm
high reels;

"200" SIZE: for max 200 mm
high reels

"300" SIZE: for max 300 mm
high reels

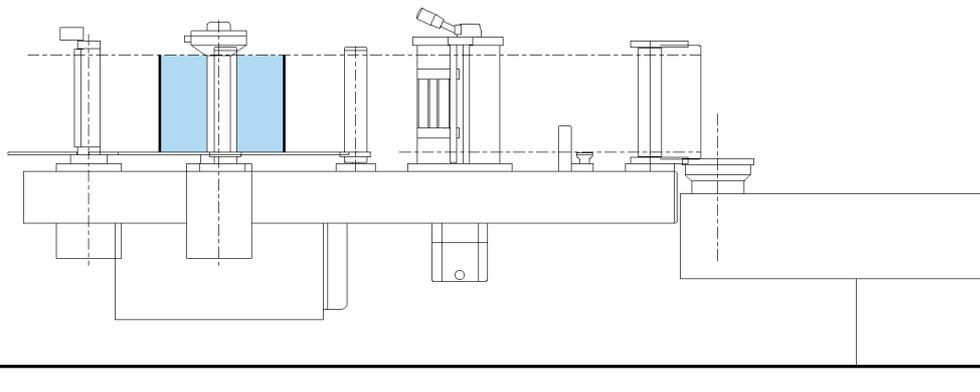
"E" VERSION with simplified control push-button panel (only for MODULE 40)



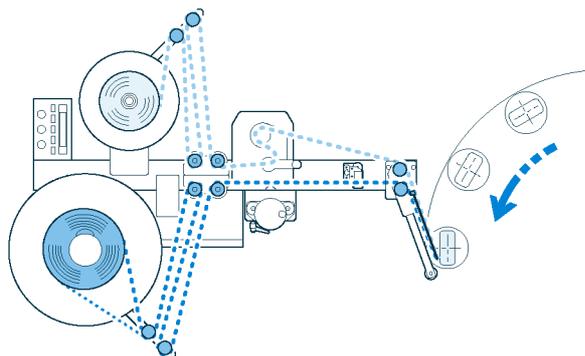
Important

On request, the machine can be delivered in various formats. Refer to the "ASSEMBLY DRAWINGS" document to identify the format applicable to your machine.

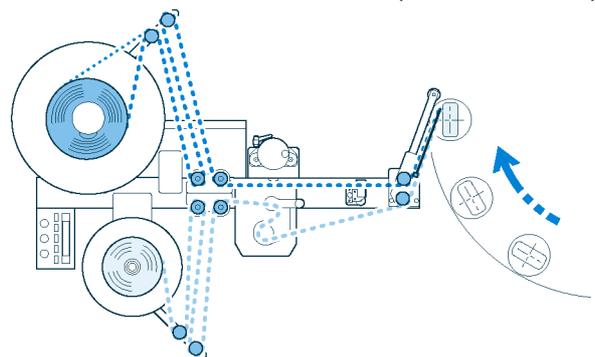
SIZE 150/200/300



LEFT-HAND FORMAT (anticlockwise rotation)



RIGHT-HAND FORMAT (clockwise rotation)

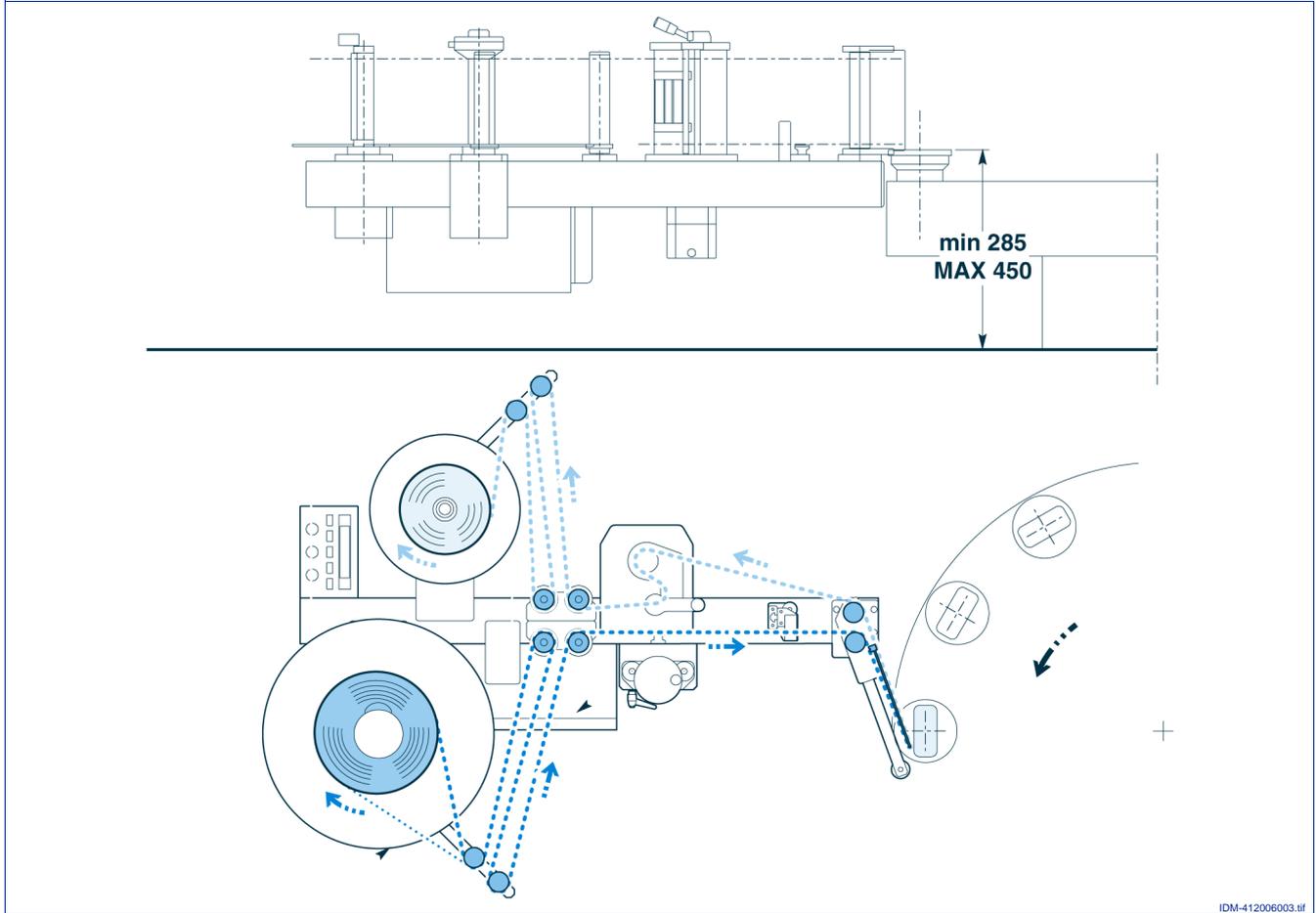


TECHNICAL SPECIFICATIONS

Rated surface speed 40/60/90/120 m/min
 Idling noise <75 dB(A)
 Single-phase electric supply

See technical details on the small plate stuck onto the machine body.

Example of configuration: **Module 60 SX 150**



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Label specifications

Module	40 (mm)	60 - 90 - 120 (mm)
A	Max 290-300	Max 395-400
B	45÷75	45÷75
C	15÷480	15÷480
D	2,5	2,5
E	150/200/300	150/200
F	0.08÷0.10	0.08÷0.10
G	Min 3	Min 3

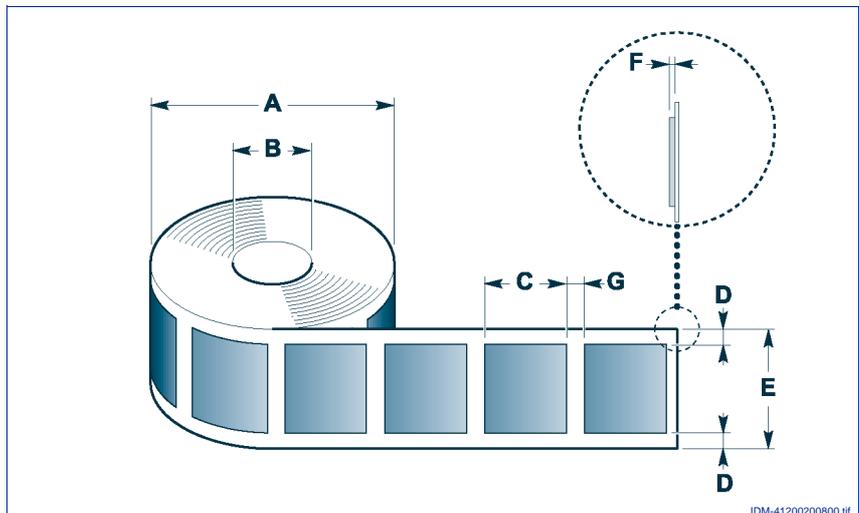
Recommended backing material thicknesses:

Clear polyester: 0.03 - 0.05 mm

Silicone paper: 0.05 - 0.06 mm

The tolerance on dimensions **C** and **G** may influence positioning accuracy.

The narrower the tolerance on these dimensions, the greater the precision of the label's positioning on the container.

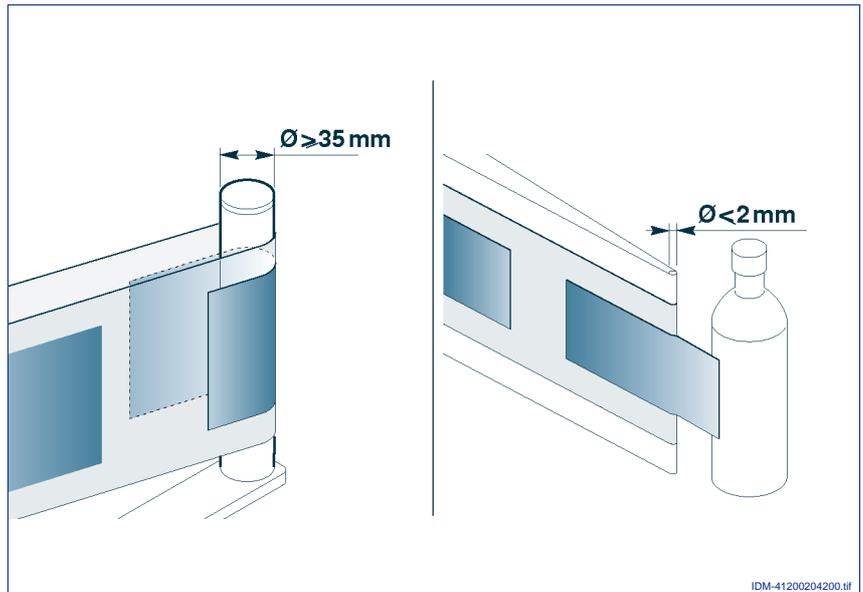


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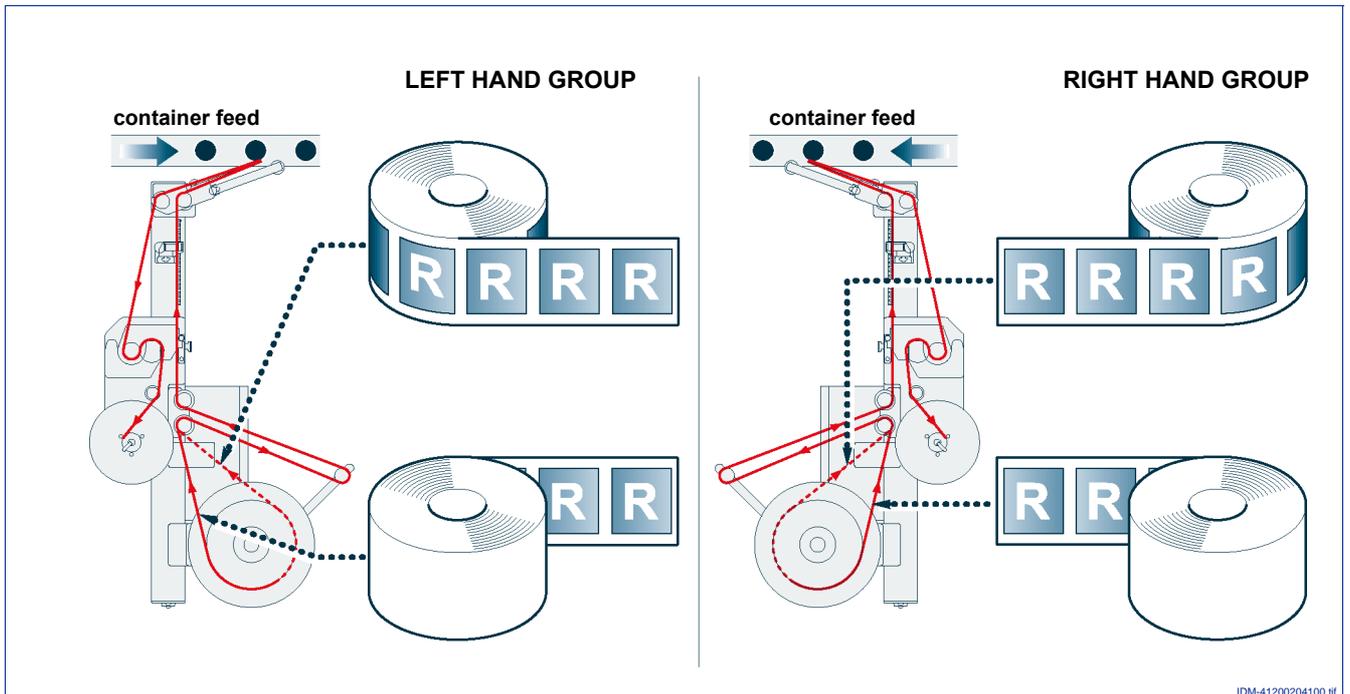
The coupling between the backing film and the label must be such that:

- the label does not come away as the film slides around a roller 35 mm in diameter;
- the label easily comes away from the backing film as it slides around an edge no more than 2 mm in diameter.



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Reel winding direction



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INSTRUCTIONS FOR HANDLING AND INSTALLATION

PACKAGING AND UNPACKING

The machine is packed with protection cardboard. All the information needed by the subjects who will load and unload the machine are reported on the packaging. The machine will be shipped with its reel carrier disks and dandy rollers disassembled, in order

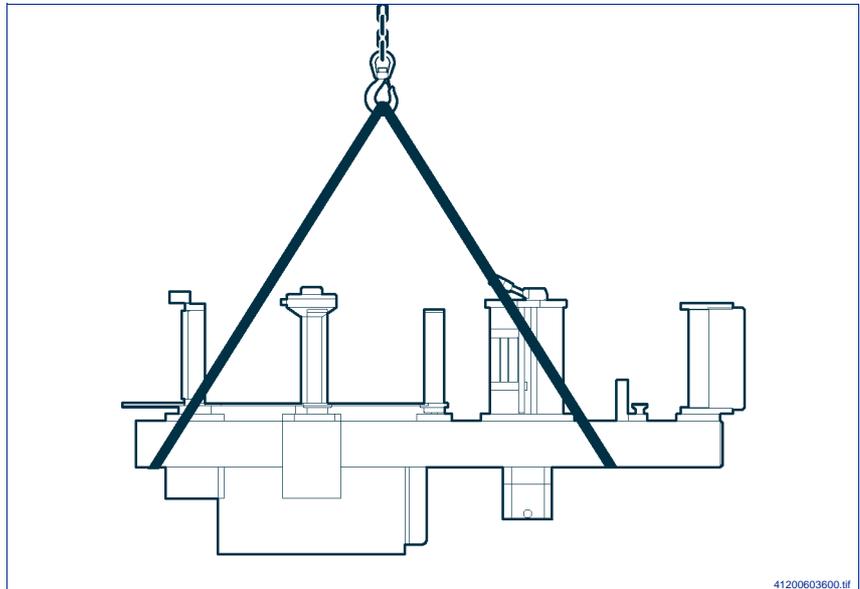
to avoid any damage to these components and to reduce overall dimensions during transport. During unpacking, check the integrity and exact quantity of the components.

ASSEMBLY AND INSTALLATION

Machine handling (loading and unloading), installation, connections and set-up shall be carried out solely by the qualified personnel authorised by the Manufacturer.

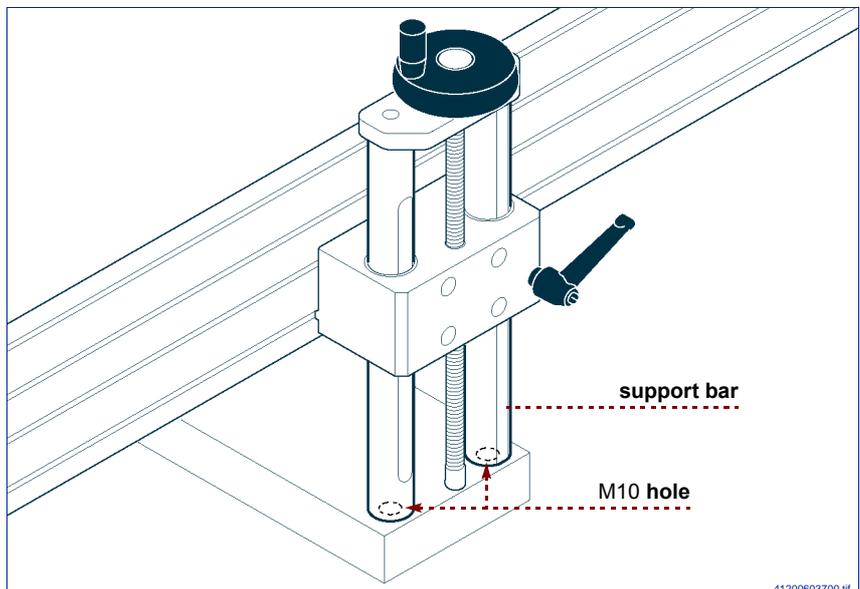
Lifting

Lift the machine as per instructions and place it in its specific installation area.



Installation

- 1 -The pre-arranged installation area shall be adequately lighted and provided with an external power socket.
- 2 -Install the tubing on the basement of the labelling machine, by using the two **threaded holes** (M10, pitch 90) of the **support bars**.
- 3 -A perimeter area all around the labelling machine shall be reserved for adjustment and maintenance operations.

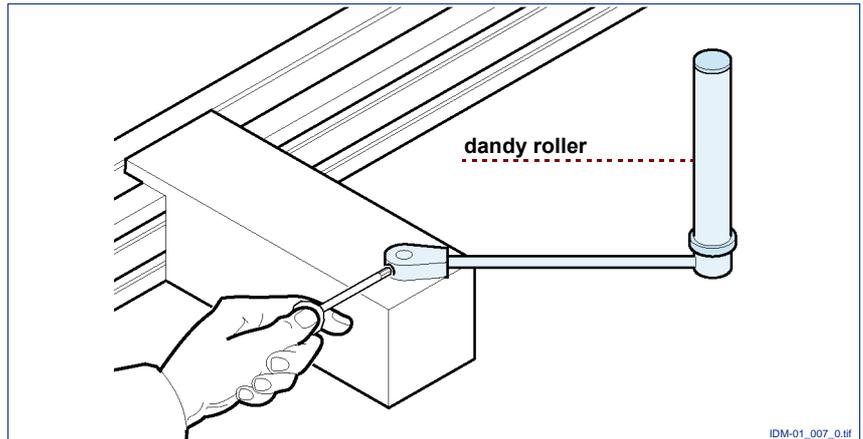


Important

The labeling unit can be delivered with a column that is adjustable on five axes; for positioning the unit, refer to the "Assembly drawings" document.

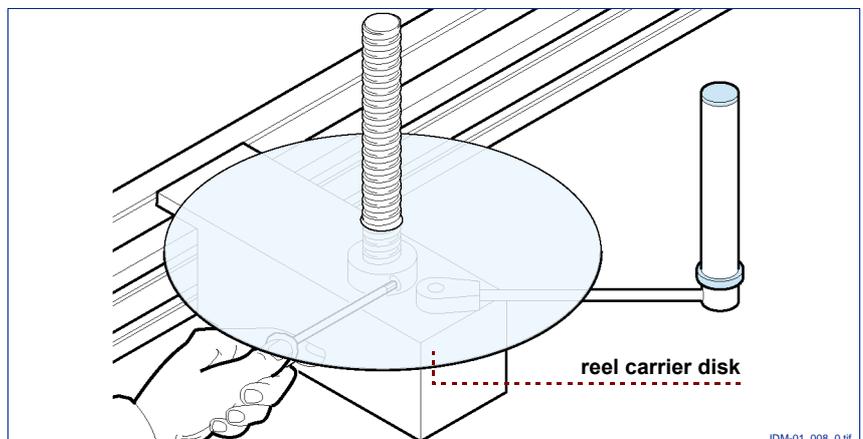
Reel carrier disk assembly

- 1 - Assemble the **dandy rollers**, if they are disassembled.



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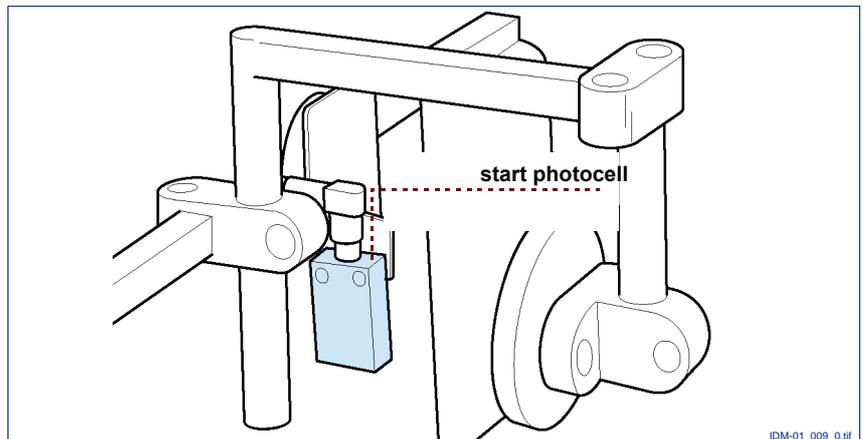
- 2 - Assemble the **reel carrier disks** on the winding and unwinding rollers.



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START photocell assembly

- 1 - Install the **Start photocell** on the carousel, according to the space available; the photocell must be able to read the jack of each individual bottle. For power connections, please refer to the electric technical documentation attached.
- 2 - Contact the Manufacturer's Service Department for any further information.



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Encoder assembly

The encoder provides the signal for synchronizing the self-adhesive labeling units. One encoder can control up to 4 units. In the case of a rotary labeling machine, the encoder unit must be installed underneath the base, making a size M8 hole as illustrated in the figure. Refer to the tables GR-0015-C, P-00165-B and SK-00130-A in the ASSEMBLY DRAWINGS document.

**Important**

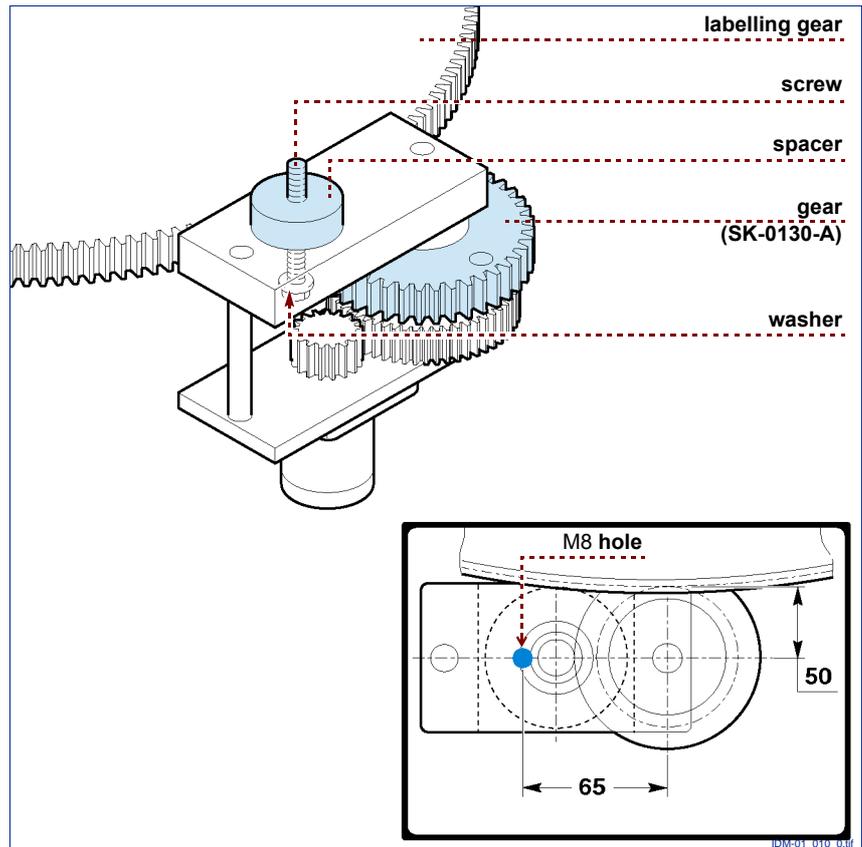
If the primary diameter of the carousel gear differs from the primary diameter of the plate centers, construct the SK-0130-A gear with a proportionately larger or smaller primary diameter.

i Important

To attach labels to rotating bottles, reduce the primary diameter of the gear to suit the ratio of the bottle's actual peripheral speed to the peripheral speed of the plate center.

i Important

While tightening the M8 fixing screw, turn the encoder unit towards the carousel gear so as to take up any slack between the carousel gear and the gear wheel SK-0130-A. The lack of slack guarantees a greater precision in the delivery of the label.

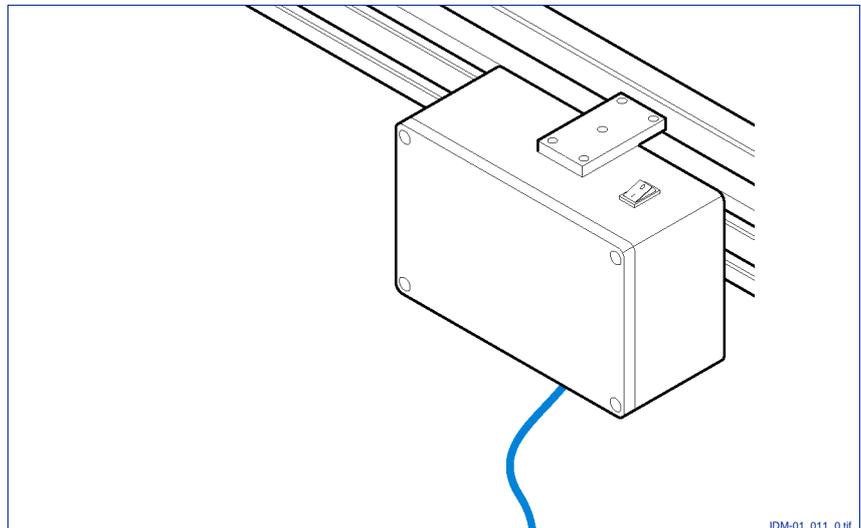


ELECTRICAL CONNECTIONS

i Important

Since the labelling unit is not an autonomous machine, but rather a unit meant for integration with an equipment built by third parties, the installer shall foreseen and install a disconnecting switch and an external emergency-stop circuit on the electric system of the machine including the unit. Such devices shall comply with the EN 60204-1 regulation.

- Using the special tools for the purpose, make sure that the earth system of the plant and the power supply line to which the machine will be connected are perfectly efficient.
- The unit shall be connected to a single-phase power feeding: check that the line voltage (V) and the frequency (Hz) correspond to the data shown on the identification plate.
- Power supply connection shall consist in connecting the earth wire to the terminal marked with the letters “PE” and the two phase wires to the terminals marked



with “L1” and “L2” inside the switchboard. Please, see the electric documentation attached for any further information about power supply connection.

i Important

If the connection is made incorrectly, disconnect the voltage and consult the electric diagram of the general electric system.

ADJUSTMENT INSTRUCTIONS

Foreword

The machine can be adjusted in several different configurations, including the following changes and/or adjustments:

- height of label positioning on the bottle;
- height of reel carrier disks and winding device disk;
- rings of the deviation rollers;
- position of the brake;
- position of the Stop photocell;
- angle of incidence of the label detaching blade (label detaching device);

- label ejection speed (see page 15).

Important

Refer to the sizing parameter tables for the settings relating to the various adjustments to make. No tools are needed to adjust the SIZE. The parts on which action has to be taken (knobs, handles, rings) to change the size are colored in red.

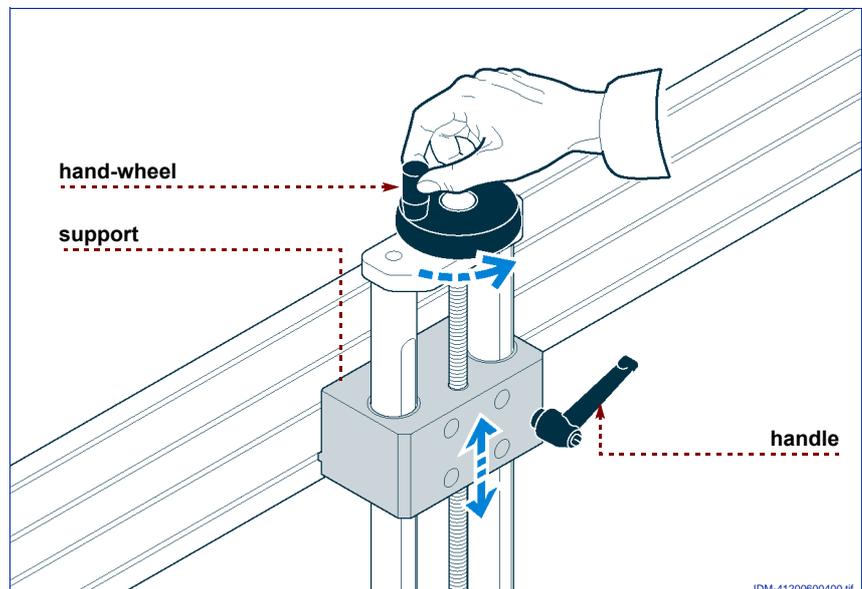
LABELLING MACHINE HEIGHT ADJUSTMENT

The height of the whole module can be adjusted according to the height of labelling required on the bottle.

- 1 - Loosen the handle.
- 2 - Turn the **hand wheel** to raise or lower the **column**.
- 3 - Tighten the **handle**.

Important

If the 5-axis column is installed, it may be necessary to take action on the rolling, pitching and depth adjustments too, according to the values given in the size tables.



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REEL CARRIER DISKS ADJUSTMENT

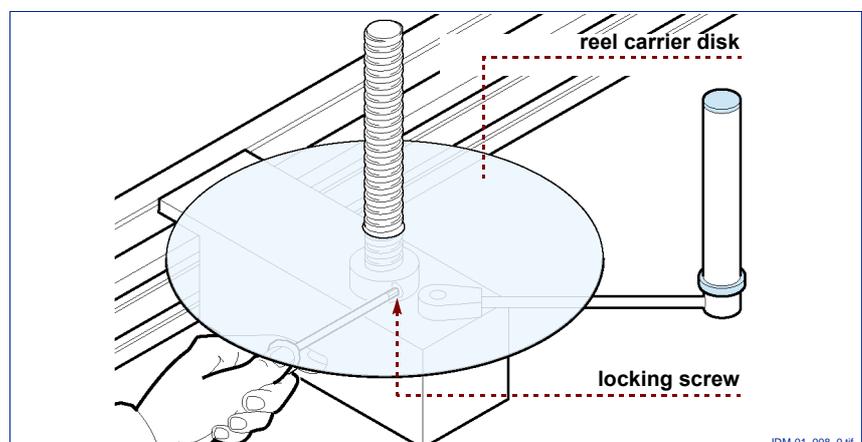
The height of the reel carrier disk can be adjusted.

- 1 - Loosen the **locking screw**.
- 2 - Rotate the **disk** so that it can be raised or lowered according to operational needs.
Adjust both reel carrier disks accordingly.

Important

Make sure that the reel carrier disks on the unwinding device and winder are on the same level (30 or 38 mm from the top surface of the 80x80 support tubing). Adjust the red paper-guiding rings fitted on the diverter rollers to the same level too. The upper and lower rings must just come into contact with the paper. Faulty alignment gives rise to:

- an inaccurate vertical positioning of the label;



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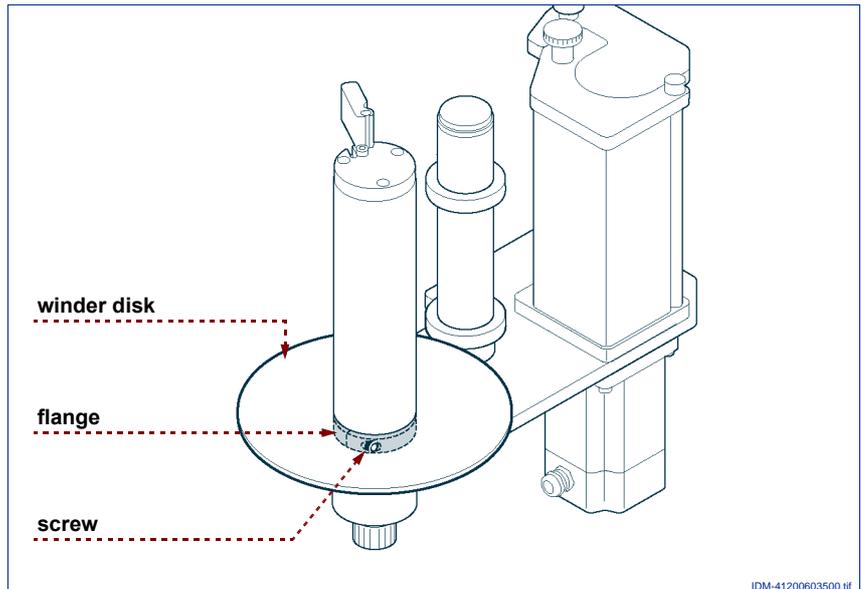
- damage to the edge of the label backing paper;
- an untidy rewinding of the paper on the winder's spool.

- 3 - Loosen the fixing screw on the bottom flange.
- 4 - Manually shift the **winder disk** upwards or downwards, turning it to facilitate this adjustment.
- 5 - Tighten the fixing **screw** on the bottom **flange**.



Important

Spaces are cut in the bottom flange to contain the spindle-fixing pins, so that the flange can be moved right down.



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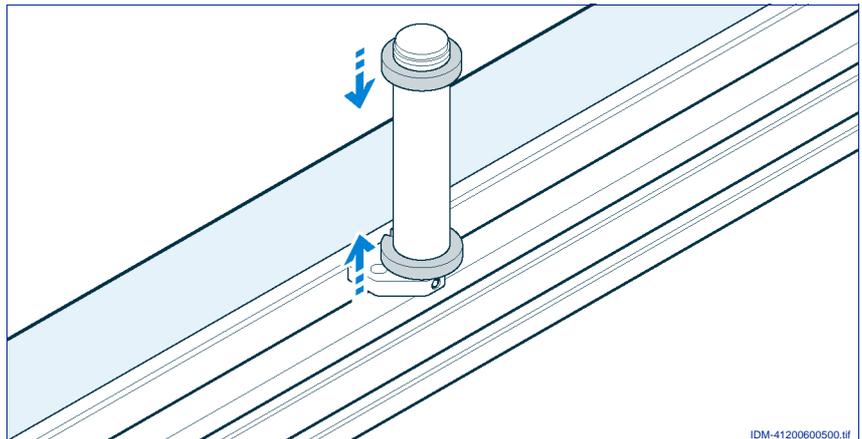
DEVIATION ROLLERS ADJUSTMENT

The diverter rollers are complete with sliding rings to ensure the correct positioning of the paper on the rollers. Position the upper ring by hand so that the top edge of the paper just comes into contact with the ring.



Important

It is very important for all the bottom rings to lie on the same level as the unwinding device and winder disks, which is typically 30 mm (or 38 mm) from the top surface of the 80x80 support tubing, so that the paper just comes into contact with the rings.

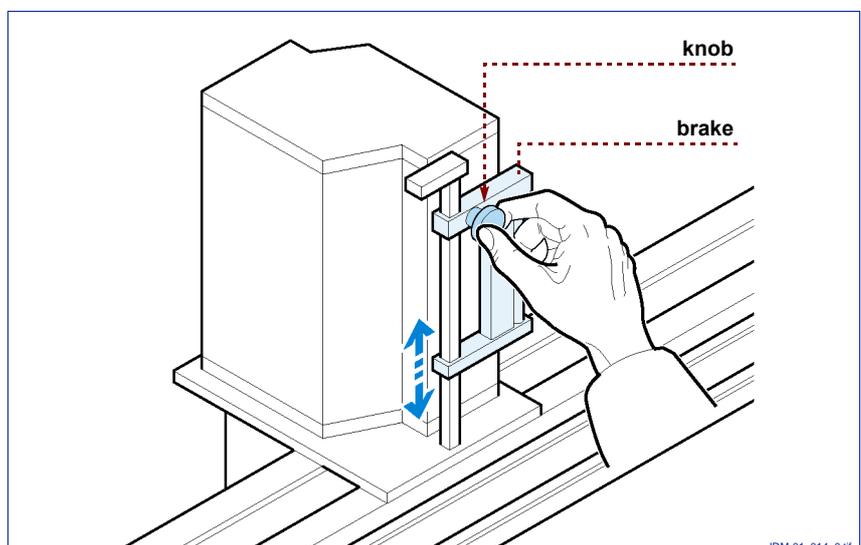


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BRAKE UNIT ADJUSTMENT

The height of the brake unit must be adjusted by approximately centring it in relation to the paper tape.

- 1 - Loosen the **knob** and set the **brake** at the height desired.
- 2 - When the brake has been set, tighten the knob.



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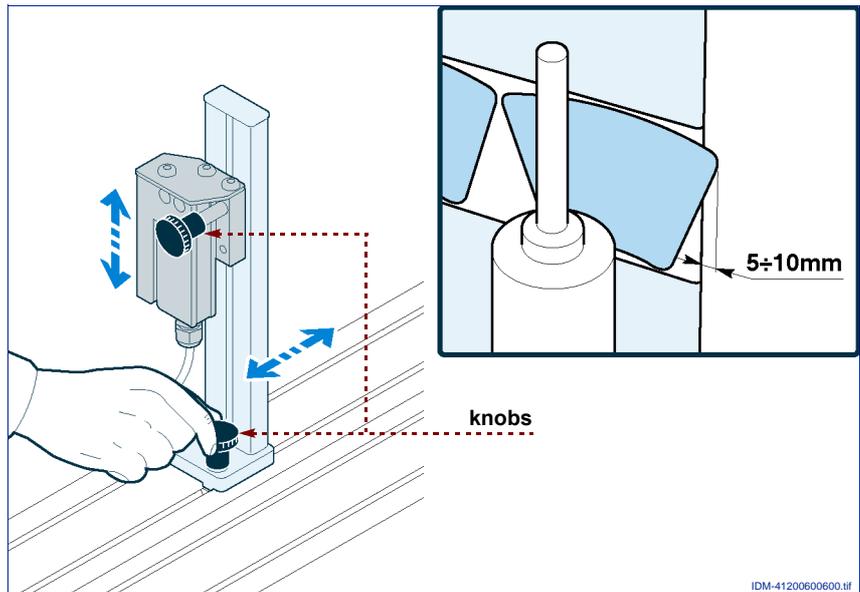
STOP PHOTOCELL ADJUSTMENT

Take action on the **knobs** to adjust the horizontal and vertical position of the stop photocell.

To ensure accurate operation, it is a good idea to choose an edge of label as vertical as possible for the reading position.

Important

Shifting the stop photocell forward (towards the label detaching blade) makes the label protrude further (and vice versa) for all the sizes set on the control keyboard. The same effect can be achieved by adjusting the “STOP DELAY” parameter from the control keyboard.



If you are working with new labels, it is important to calibrate the photocell's sensitivity as illustrated in chapter 4.

LABEL DETACHING BLADE ADJUSTMENT

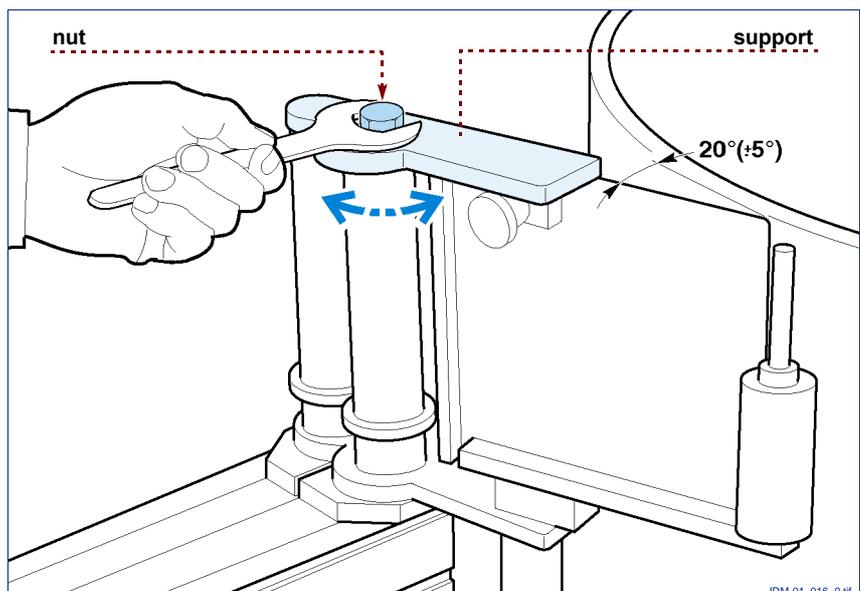
For a correct detachment of the label from the paper, the detaching blade must be oriented at approximately 20° (+/- 5°) in relation to the tangent of the carousel or in relation to the direction from which the containers come.

1 - Loosen the locking **nut** and orient the blade **support** according to the angle suggested.

2 - When the blade has been adjusted, tighten the nut.

Important

There is usually a reference notch on the plate connecting the label detaching blade to the main support tubing. Keep the label detaching blade in line with this reference unless it is strictly necessary to change its position.



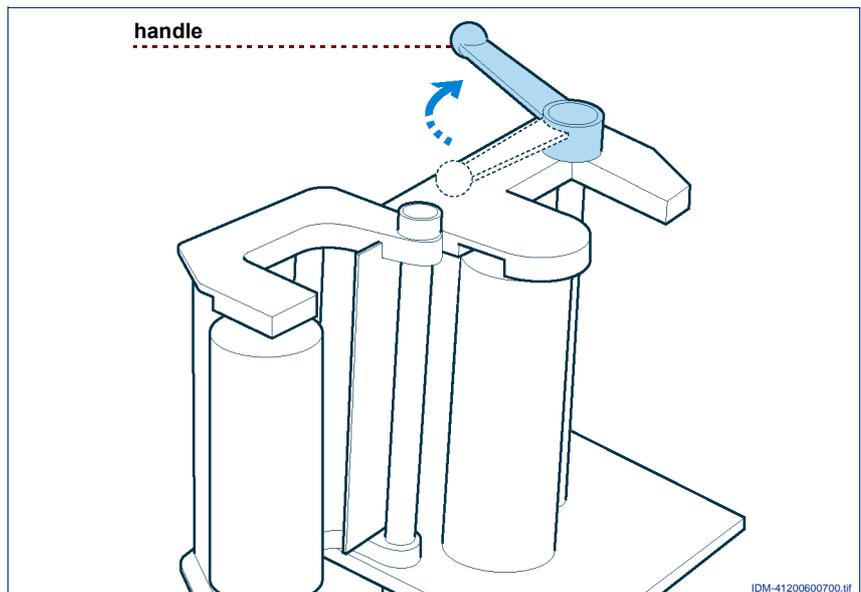
DRIVING ROLLER - COUNTER-ROLLER ADJUSTMENT

It is a good idea to check the preloading of the springs serving the (rubber-coated) counter-roller's flexible bearings because:

- if the springs are too slack, the paper will not be drawn correctly and this will result in label positioning errors;
- if the springs are overloaded, it may become impossible to close the driving unit and/ or the motor may seize under the thrust from the counter-roller.

Proceed as follows.

- 1 - open the driving unit by unlocking the **handle**;

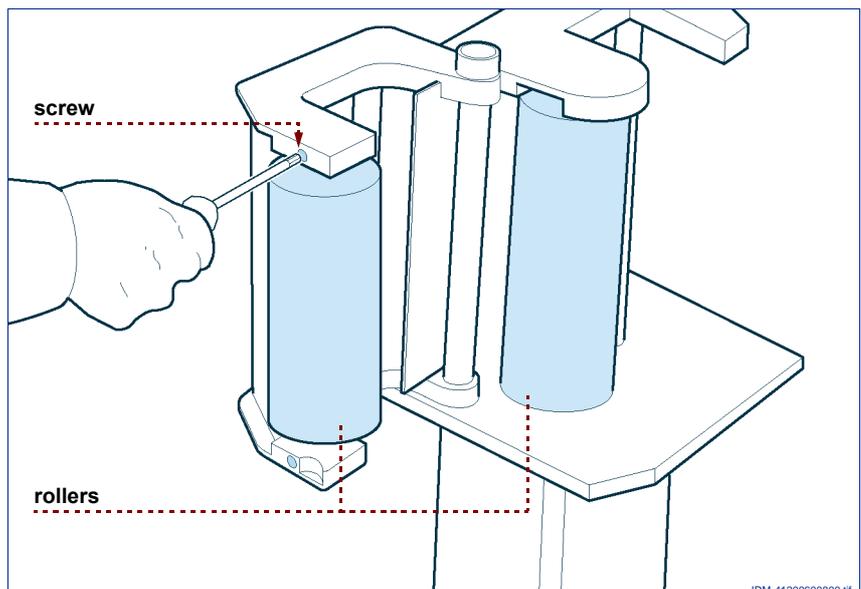


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- 2 -tighten the adjusting **screws** of the elastic supports;

- 3 -unscrew the adjusting **screws** with the same number of turns (e.g.: four turns) both up and down, so that the force of the contact between the driving roller and the counter-roller is uniform along the whole line of contact of the **rollers** themselves.

If the driving unit hatch is difficult to close, it may be necessary to loosen the flexible bearing screws slightly.

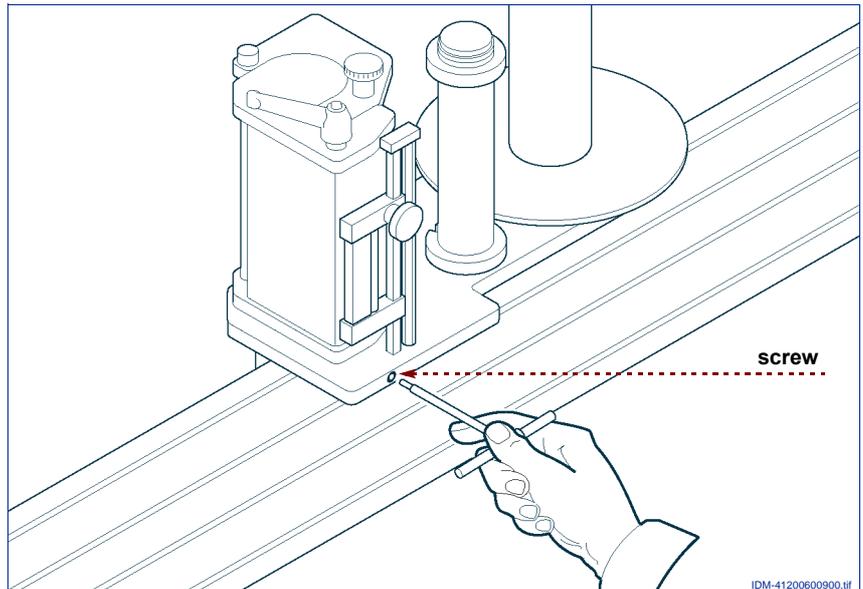


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ADJUSTING THE PAPER-BRAKING PAD

Proceed as follows.

- 1 - Tighten the **screw** to increase the braking force on the paper.
- 2 - Loosen the **screw** to reduce the braking force on the paper.



ADJUSTING THE CLUTCH ON THE WINDER SPOOL

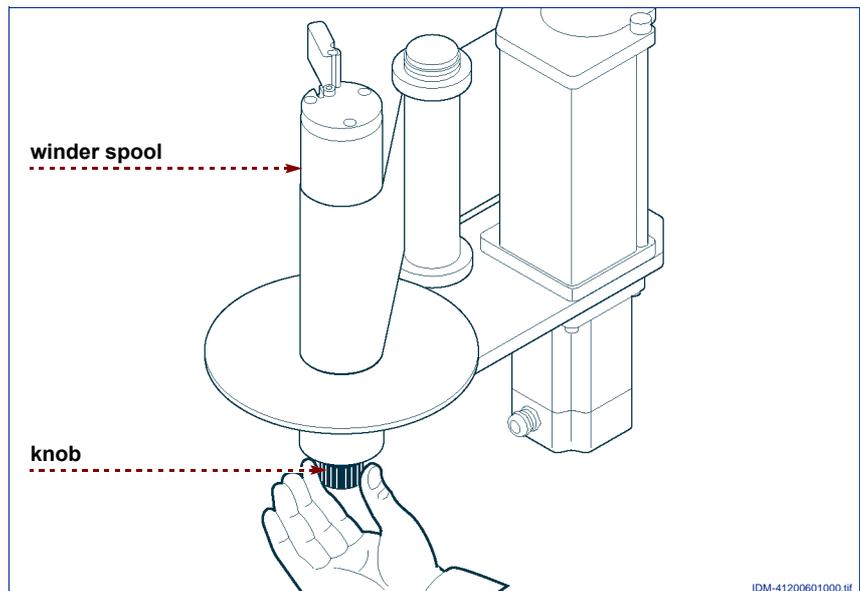
In the MODULE 40 version, the revolving motion of the **winder spool** is driven by the main motor by means of a belt transmission with an adjustable clutch control. To increase the tension on the paper, proceed as shown on the right.

- 1 - Tighten the knurled **knob** underneath the winder.



Important

Avoid pulling the paper too taut, otherwise the motor could seize. Tighten the knob if the paper is not winding neatly onto the spool or if it tends to form a variable (pulsing) loop between the driving unit and the spool.

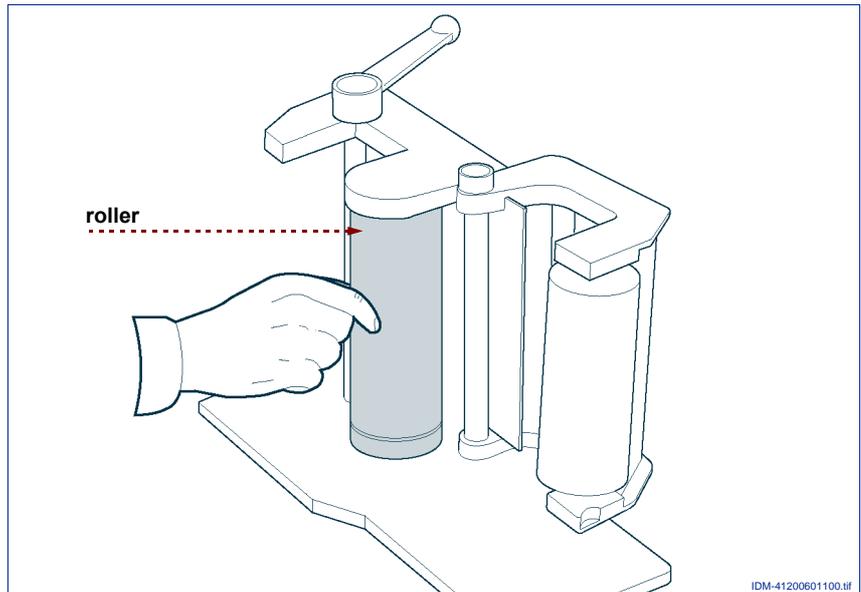


DRIVING MOTOR BELT ADJUSTMENT

In some versions (e.g. MODULE 120), there is a belt and pulley drive between the motor and the driving roller. Refer to the “Assembly drawings” document for further details.

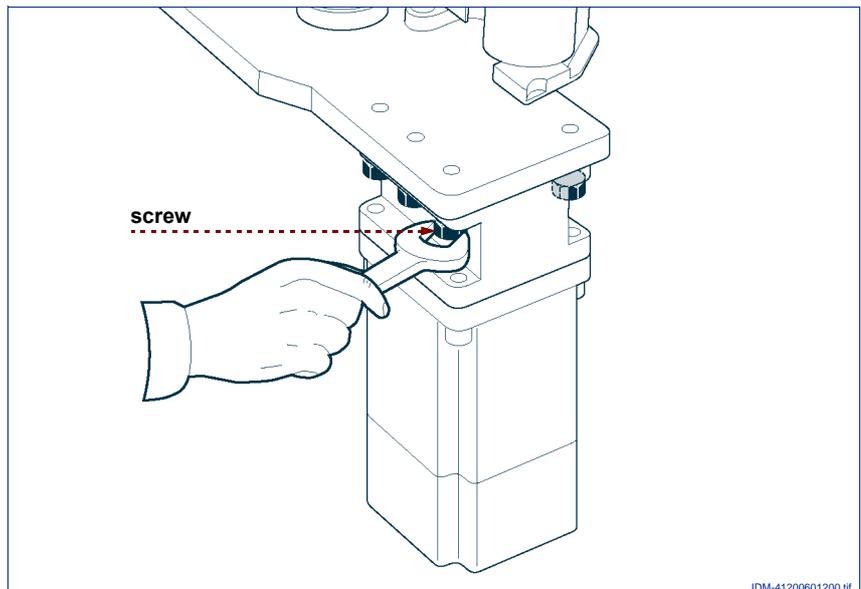
To pull the belt taut, proceed as follows.

- 1 - Open the guard over the driving unit and make sure there is no slack on the **roller**. A flexible displacement of approximately 0.5 mm is normal. If the roller moves more, proceed with the steps listed below.



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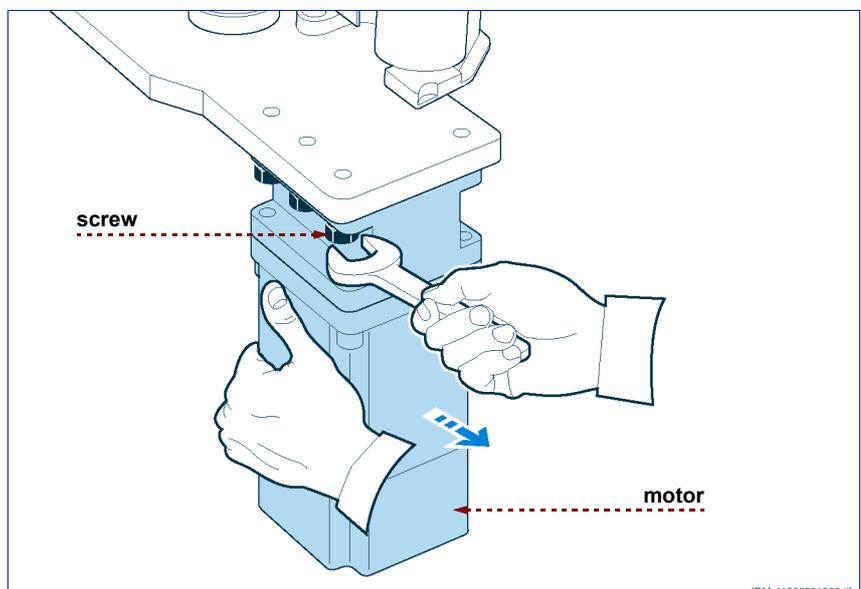
- 2 - Loosen the driving motor coupling cage **bolts**.



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- 3 - Move the **motor** with one hand, shifting it outwards without exerting an excessive force, then tighten the **bolts**.

An automatic sprung tensioning system ensures the right tension on the drive belt. Refer to the “Assembly drawings” document.



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SPEED ADJUSTMENT

The rate of delivery of the labels is synchronized with the speed of the object being labeled by means of an encoder (speed sensor).

The two speeds are proportional to each other; by speed adjustment, we mean an adjustment of the ratio between the two. If the speed of the label is too slow with respect to the speed of the object being labeled, the label will tend to be dragged along by the object, pulling the paper away from the reel; conversely, if the speed of the label is too fast for the speed of the object,

the label will tend to wrinkle during its application.

To adjust the speed, it is essential to press and hold the button for more than 2 seconds, until the green light begins to flash. If you release the button after the first flash, the speed will be adjusted to a value of 1; after the second flash, the speed will be adjusted to a value of 2, and so on. The limit value for this adjustment is 20. The adjustment is saved by the machine and stored in non-volatile memory even if the machine is switched off.

AUTOMATIC ADJUSTMENT OF THE LABEL-READING PHOTOCELL'S SENSITIVITY

In some versions of the MODULE 40, a program is installed that enables the sensitivity of the photocell reading the labels to be adjusted automatically. This software only works with the standard PackLab photocell (for machines without this option, you should refer to the section "Manual adjustment of the label-reading photocell's sensitivity" later on in the chapter entitled OPERATING INSTRUCTIONS).

The photocell's sensitivity is adjusted so that the light emitted by the photocell succeeds in passing through the translucent backing paper but not through the label. The automatic adjustment takes effect on the intensity of light emitted, identifying how much light is received through the backing paper.

To enable the automatic adjustment procedure, proceed as follows:

- switch off the machine from the main circuit-breaker;
- place a piece of backing paper in the groove where the photocell takes its reading;
- press and hold the machine control button, then power up the machine from the main circuit-breaker;
- when the green light comes on, release the button. You will see the green light flash for a few instants;
- the green light shows when it has found an efficient regulation because it stops flashing and remains on for approximately one second.

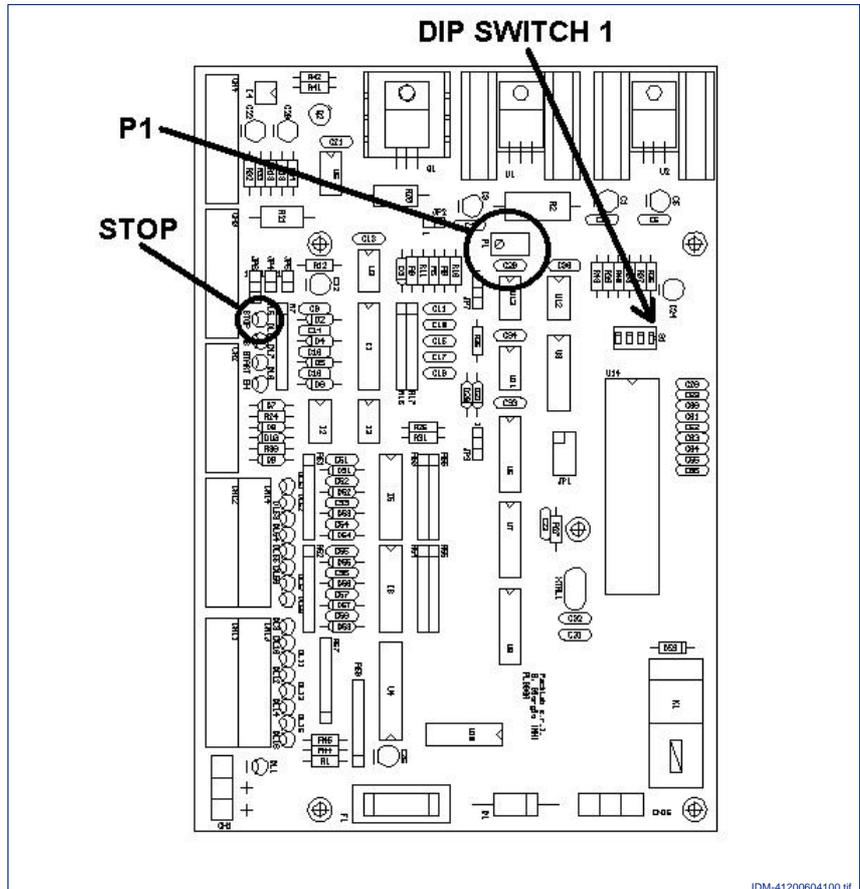
Now the machine is ready for operation as usual. The value of the adjustment remains in the machine's memory until a new adjustment procedure is performed.

MANUAL ADJUSTMENT OF THE LABEL-READING PHOTOCELL'S SENSITIVITY

On machines that do not have the automatic regulating option, the photocell's sensitivity can be adjusted by means of a screw trimmer situated on the PL006 card inside the switchboard. This adjustment can only be made by opening the electric switchboard while the power is on, so it must only be undertaken by an expert electrician.

The PL006 card is normally installed parallel to the cover on the right-hand side of the switchboard and the trimmer is situated at the top end of the card and marked with the code P1. If the screw on the trimmer P1 is turned clockwise, it increases the intensity of light emitted by the photocell. There is a green light on the PL006 card, marked with the word "STOP", that comes on when the label-reading photocell is in the light and goes off when the photocell is in the dark. The photocell's sensitivity is adjusted so that the light emitted by the photocell succeeds in passing through the translucent backing paper but not through the label. It is consequently necessary to proceed as follows:

- – remove the cover from the switchboard;
- – locate the PL006 card and the STOP light and trimmer P1 on board the card;
- – position some backing paper without any labels in the groove where the photocell takes its reading;
- if the STOP light is off, turn the trimmer P1 clockwise until the light comes on; if the light is on, turn the



- trimmer anticlockwise until the light goes off, then turn it clockwise again until it comes back on;
- then turn the trimmer clockwise through one turn;
- place a label in the groove where the photocell takes its reading and make sure that the STOP light goes off when the label transits under the photocell, and that it only comes on for the passage of the gap between two labels.

ADJUSTING FOR NARROW LABELS - MODULE 40E

If the machine is used to apply particularly narrow labels (< 20 mm), it may be necessary to change the driving motor's acceleration ramp, making it faster than normal. On machines configured in standard mode, this is done simply by moving the dip switch "1" on the PL006 card from the OFF position (where it is normally) to the ON position. The dip switch must only be moved after disconnecting the power to the switchboard.

**Danger - Warning**

Never move the dip switches 2, 3 and 4 from the OFF position! Doing so could cause irreparable damage to the electronic card.

OPERATING INSTRUCTIONS

DESCRIPTION OF THE CONTROLS (VERS.60/90/120/40 KEYBOARD)

The labeling units for attaching self-adhesive labels in the MODULE 60 and MODULE 90 range are complete with a terminal for controlling the machine functions and setting the operating parameters. The terminal comprises a waterproof membrane keyboard and a backlit LCD alphanumerical display, and it is housed in a container separate from the main switchboard.

It should be noted that there is a general machine circuit-breaker on the underside of the main switchboard, while on the top there is a red light that indicates when the machine is powered.

Generally speaking, the function of the keys is as follows (to facilitate

typesetting, the key with the arrow facing upwards will be called the "UP" key, while the key with the arrow facing downwards will be called the "DOWN" key in the text that follows):

"RESET" key: enables the machine to be started again after a stoppage due to an alarm condition, or after a stoppage obtained by pressing the STOP key

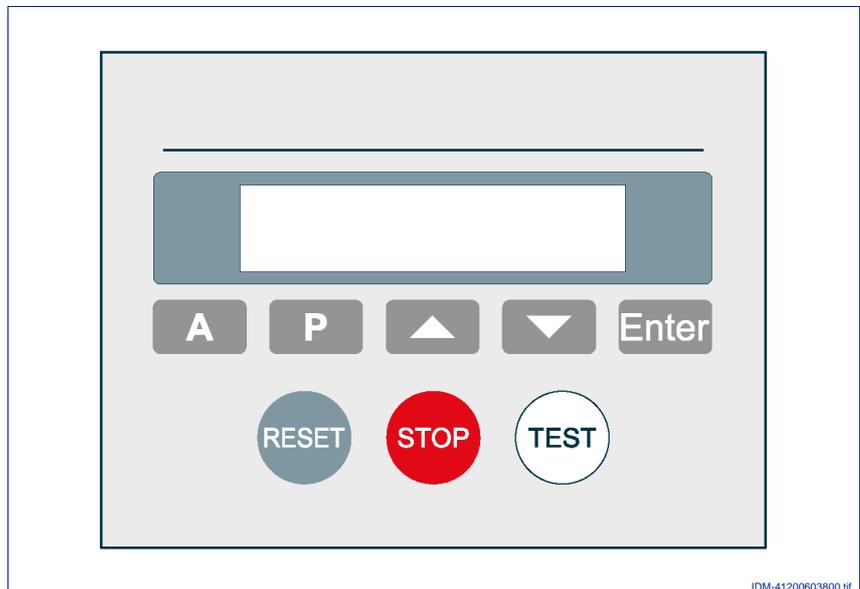
"STOP" key: stops the machine, bringing it into pause mode; to start the machine again, you have to press the RESET key

"TEST" key: when the machine is in pause mode (after pressing the STOP key), this key enables you to deliver a single label

"A" key: pressed simultaneously with another key, it enables you to obtain an alternative function. The possible combinations are A+P, A+UP, A+DOWN, A+TEST

"P" key: this is used to access the procedure for setting the machine operating parameters associated with a particular size of label and bottle

"UP" key: in the procedures requiring you to input a number, the UP key increases the number in question by one unit



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"DOWN" key: in the procedures requiring you to input a number, the DOWN key reduces the number in question by one unit

"Enter" key: in the procedures requiring you to input a number, the Enter key confirms the new setting.

"A + P" combination of keys: this is used to access the procedure for setting the general machine operating parameters unassociated with any particular size of label and bottle

"A + UP" combination of keys: in the procedures requiring you to input a number, this combination of keys increases the number concerned by 10 or 100 units at a time

"A + DOWN" combination of keys: in the procedures requiring you to input a number, this combination of keys reduces the number concerned by 10 or 100 units at a time

"A + TEST" combination of keys: this enables you to view certain diagnostic information on the state of the inputs and outputs.

Basic terminal functions

The operator can test the machine's functions using the RESET, STOP, TEST keys alone; the keys on the top line are only used for setting the operating parameters.

When the machine is started by powering up the circuit-breaker situated underneath the main switchboard, the display on the terminal lights up and shows the message "SW Ver." followed by the indication of the software release loaded on the machine.

If the factory settings have not been changed, after an interval of a few seconds, the display will show the word "PAUSE", meaning that the machine is not yet ready to operate in automatic mode. While the machine is in pause mode, you can deliver a test label by pressing the TEST button. During the test, the speed of delivery of the label is not synchronized with the speed measured by the encoder (the speed sensor is normally installed on the carousel, or on the conveyor belt carrying the containers to label). If the machine does not start when you press the TEST button, the guard on the label driving roller has probably not been closed properly. After delivering a test label, the display shows the message "TEST: xxxx", where xxxx is the number of motor steps used to deliver the label.

If the machine is in pause mode, no information on any alarms is shown on the display.

You can switch to pause mode at any time by pressing the STOP button. It is advisable to proceed with the paper loading operations with the machine switched off, or at least with the machine in pause mode. To switch to automatic operation, where the label delivery rate is synchronized with the speed measured by the

encoder, you need to press the RESET button. If there are no alarm signals, the display shows the word "READY", followed by an indication of the reference number for the size being processed (F01 = size n. 1, F02 = size n. 2, etc.). In these conditions, the machine is ready to work in automatic mode.

In the event of any alarm, on the other hand, the display shows the word "ALARM" followed by a short message that identifies the cause of the alarm. The alarm messages that are normally used are as follows:

- – **Driver anomaly** (standard)
this indicates a malfunction in the electronic control of the stepping motor.
- – **Rollers open** (standard)
this indicates that the guard over the driving rollers has not been closed properly
- **Reel empty** (standard)
this indicates that the unwinding device has come to the end of the reel of labels
- **Torn paper** (in some versions)
this indicates that the backing paper has torn
- **Reel 2 empty** (in some versions)
this indicates that the second unwinding device has finished the reel of labels
- **Alarm input 6** (in some versions)
this is a generic alarm available for special versions
- **Step limit**(standard)
this indicates that the motor step counter has exceeded its maximum limit setting during the delivery of the label.

Having identified and dealt with the cause of the alarm, to restore the machine to a ready state, you will need to press the RESET button; if the alarm message does not disappear after pressing RESET, this means that the cause of the alarm has not yet been removed.

Setting the configuration parameters

These parameters can be adjusted with the machine either in a ready state or in pause mode; bear in mind, however, that no alarm messages will be displayed during the parameter setting procedure (the RESET, STOP and TEST keys nonetheless remain active).

Access to the parameter settings is protected by a password; you must therefore specify a numerical code coming between 0 and 9999, which must obviously only be known to personnel qualified to change these parameters. The machine is delivered with a password set on a value of 1; the user is urged

to change this parameter as soon as possible, making a note of the new password so that he can recall it in future.

To set the parameters, follow the procedure outlined below:

- 1 - Press the combination of keys "A+P": the display shows the message "PASSWORD" followed by the number 0.

- 2 - Press the UP and DOWN keys (or the A+UP, A+DOWN combinations) to specify the value of the password.
- 3 - Confirm the password with the Enter key.
- 4 - If the password is correct, the display will show "C00" on the first line, which indicates the configuration parameter number, and a short message on the second line that describes the meaning of the parameter in question.
- 5 - Press the UP and DOWN keys to scroll through the list of parameters; the display will show each parameter according to its number and the corresponding description.
- 6 - When the parameter that you want to change appears, press the Enter key: the first line of the display will show the current value of the parameter concerned.
- 7 - Using the UP, DOWN, A+UP, A+DOWN keys, set the required value and then confirm the new setting by pressing the Enter key.
- 8 - After setting the parameter, you can go on to set other parameters by starting again from item 5, or you can abandon the procedure by pressing the P key.

Setting the size-related operating parameters

The size parameters are specified in much the same way as the configuration parameters; the password to input is the same.

The size parameters are correlated with a size number; the machine can store 10 different sets of parameters associated with ten different sizes. When you recall a certain size, the machine automatically loads the parameters associated with it, thereby avoiding the need to reset all the parameters every time. For the size-changing procedure, see the previous paragraph.

To set these parameters, follow the procedure outlined below.

- 1 - Press the P key: the display shows the message "PASSWORD" followed by the number 0.
- 2 - Press the UP and DOWN keys (or the A+UP, A+DOWN combinations) to specify the value of the password.
- 3 - Confirm the password by pressing the Enter key.
- 4 - If the password is correct, the display shows "P00Fxx" on the first line (which means: parameter 0 for size xx), and a short message on the second line that describes the meaning of the parameter in question.

The parameters accessible to the user are:

C00 – Size code

This is the number associated with the parameters for a given size. When you change the size code, the parameters specified for the size are saved in the memory; they can subsequently be changed. Values from 1 to 10 are allowable.

C01 – Language code

This parameter is not used in the more recent releases.

C02 - Password

This is the code needed for access to the parameter setting procedures. On delivery, the C02 parameter is set on a value of 1.

C03 – Ready to start?

If the parameter setting is NO, the machine starts in pause mode when it is switched on; if the parameter is set on YES (the default setting), the machine starts in a ready state when it is switched on. Use the UP and DOWN keys to change the setting from YES to NO and vice versa.

- 5 - Press the UP and DOWN keys to scroll through the list of parameters; the display will show each parameter according to its number and a corresponding description.
- 6 - When the parameter that you want to change appears, press the Enter key: the first line of the display will show the current value of the parameter concerned.
- 7 - Using the UP, DOWN, A+UP, A+DOWN keys, set the required value and then confirm the new setting by pressing the Enter key.
- 8 - After setting the parameter, you can go on to set other parameters by starting again from item 5, or you can abandon the procedure by pressing the P key.

The parameters accessible to the user are:

P00 – Speed

The meaning of this parameter depends on the method used to adjust the speed setting; the machine can be configured to operate in synchronized mode (with the encoder) or in constant speed mode (without the encoder).

In the **synchronized mode with encoder**, this parameter influences the relationship between the speed measured by the encoder and the label delivery speed. High values of P00 correspond to high label delivery rates. In the case of the rotary labeling unit, if the encoder is installed in the standard manner (i.e. with a gear having a primary diameter of 100 mm that is driven by the machine's central gear whose diameter corresponds to the primary diameter of the plates), the P00 parameter can be specified considering the values given in the table below (which are for guidance only) as the initial test values.

The table is not suitable for use in the case of bottles rotating around their own axis.

The minimum value of P00 is 0; the maximum value is 255.

Bottle diameter	P00 for Module 90	P00 for Module 60
0 – 50 mm	165 – 172	207 – 215
50 – 100 mm	172 – 180	215 – 222
100 – 150 mm	180 – 188	222 – 230
150 – 200 mm	188 – 195	230 – 238

In **constant speed mode**, the P00 parameter enables you to adjust the speed of the label, inputting the value directly, expressed in mm per second. The setting must come between 10 and 2000.

P01 – START delay

The meaning of this parameter depends on the chosen speed adjustment mode; the machine can be configured to function in synchronized mode (with encoder) or in constant speed mode (without encoder). In the **synchronized mode with encoder**, the P01 parameter specifies the number of encoder pulses by which the photocell's Start signal is "delayed".

Increasing the P01 parameter equates to moving the point where the label is attached further forward. Bear in mind that, in standard encoder installation conditions, 1 mm corresponds to approximately 125 encoder pulses.

If you set an excessively high value for P01, the machine may deliver a label on alternate bottles; if this is the case, you need to reduce the value of P01.

Minimum value: 256. Maximum value: 4000.

In **constant speed mode**, the parameter P01 corresponds to a time delay. The amount of this delay is expressed in units corresponding to 0.25 milliseconds. For instance, if the parameter is set at 1000, the delay will amount to 0.25 seconds.

Minimum value: 1. Maximum value: 10000.

P02 – STOP delay

The parameter P02 establishes by how many motor steps to delay the stoppage of the label. Increasing the value of P02 has the effect of increasing the length of the protruding part of the label on the label detaching blade. Bear in mind that a motor step on the Module 60 unit equates to 0.25 mm, while a step on the Module 90 unit equates to 0.34 mm.

If you set an excessively high value for P02, the machine may deliver two labels at a time instead of one, in which case you need to reduce the value of P02.

Minimum value: 1. Maximum value: 2000

P03 - Max label steps

The P03 parameter indicates the maximum number of motor steps to count during the delivery of the label. If the step counter exceeds the value of P03 during the delivery of the label, the process is stopped and the "Step alarm" is tripped. To set this parameter correctly, you must first run a few tests using the TEST button, making a note of the motor steps indicated on the display. You can then set the parameter P03 as the maximum value recorded during the test, plus 20 to prevent any false alarms.

Minimum value: 20. Maximum value: 2000

P04 – Stop photocell light

The parameter P04 adjusts the luminous intensity used by the Stop photocell. This parameter only takes effect on the manufacturer's standard photocells, it does not work with other commercially-available photocells. The factory-set value is 90, but if you use a very dense backing paper, it may be necessary to increase this value; vice versa, if you use a translucent backing paper with pale labels, it may be necessary to reduce the value of P04.

The luminous intensity can also be adjusted automatically as follows:

- insert a piece of backing paper in the photocell's groove, or remove the label currently under the photocell;
- input a value of 0 (zero) for the parameter P04 and confirm by pressing Enter.

Minimum value: 0. Maximum value: 250

Diagnostic functions

To use the diagnostic functions, simply press the combination of keys “A + TEST”. The display shows the following information:

Enc	AB	CD	123456
043	10	10	111100

The number under the field “ENC” indicates the frequency (in kHz) detected by the encoder; this value is proportional to the speed of the linear or rotary labeling machine; in standard encoder installation conditions, each unit of the figure equates to about 0.5 m/min or slightly less.

Functions accessible only to qualified personnel

The functions that are illustrated below are only accessible by means of a confidential access code (password). This password must only be communicated to expert technicians.

Additional configuration parameters:

You can access the following parameters by simultaneously pressing A+P, then inputting the confidential password.

C04 – Enable alarms

Using this parameter you can enable or disable the alarm signals.

The parameter’s value is obtained by adding together the values associated with the individual signals that you want to enable, or zero if you want the signals to be ignored. The values associated with each signal are:

- Alarm 1 (driver) 1
- Alarm 2 (roller microswitch) 2
- Alarm 3 (reel empty) 4
- Alarm 4 (torn paper) 8
- Alarm 5 (reel 2 empty) 16
- Alarm 6 32
- Internal alarm 1 (step limit) 64

In the default configuration, the code is 71, which coincides with enabling the first 3 external alarms plus the step limit alarm.

C05 – Constant speed?

This parameter is used to choose whether the label delivery speed is to be constant (corresponding to the value specified in the parameter P00 – Speed) or synchronized with an encoder.

Input YES to choose the constant speed mode or NO to enable the synchronized mode with the encoder.

The numbers (0 or 1) under the fields A, B, C and D enable you to control the status of the inputs for the Start photocell (A), Stop photocell (B), enabling signal (C) and second auxiliary input (D), which is currently not in use. Pay attention to the fact that the enabling signal must be on 1 for the machine to be able to function.

The numbers (0 or 1) under the fields 1, 2, 3, 4, 5 and 6 are for controlling the status of the inputs for the alarm signals, i.e. the driver ready contact (1), roller microswitch (2) and empty reel sensor (3). In some special configurations, there are also alarms for torn paper (4), a second empty reel sensor (5), and an additional alarm (6).

The mode you choose affects the meaning of the parameters P00 (Speed) and P01 (Start delay). In constant speed mode, any signal coming from the encoder is ignored.

C06 –55 mm roller?

This parameter only takes effect if the constant speed mode has been selected. You need to input YES if the paper-driving roller is 55 mm in diameter (standard on the 90 m/min machines); or you input NO if the paper-driving roller is 40 mm in diameter (standard on the 60 m/min machines).

Additional size parameters:

P05 - Stop Dark-Light?

Input YES to stop the label on the dark-light transition, or NO to stop on the opposite transition.

P06 – Speed compensation

The speed compensation takes effect by anticipating the delivery of the label in proportion to the speed measured by the encoder. A value of 16 in P06 (the default value set at the factory) coincides with the compensation of a total delay of 1 msec in the system; in these conditions, P01 must be at least 256. If you increase the value of P06 you need to increase P01 proportionally as well.

P07 – Ramp No.

On machines with two control cards (PL001-PL002): you can set values from 0 to 7 (8 types of ramp); ramp 0 is the slowest and ramp 7 is the fastest. It is advisable to use ramp 3 on the faster machines. On machines up to 40-60 m/min, you can use ramp n. 6. Ramp n. 7 is only used for narrow labels (less than 20 mm approx.).

On machines with a single control card (PL006): you can set values from 0 to 3 (4 types of ramp). The equivalence between the ramps of machines fitted with the PL006 card and the ramps in the model with two cards is illustrated in the table below:

Ramp with single card (PL006)	Ramp with two cards (PL001+PL002)
0	3
1	5
2	6
3	7

Ramp 0 is the slowest and ramp 3 is the fastest. On the faster machines, it is advisable to use ramp 0. On machines up to 40-60 m/min, you can use ramp n. 2. Ramp n. 3 is only used for narrow labels (less than 20 mm approx.).

P08 - Start Ramp

Setting a value other than zero increases the initial speed of the ramp. P08 is normally set on zero.

P09 – Print time

This enables you to specify the duration of the pulse destined for the marker. Each unit equates to approximately 4 msec.

Initialize EPROM

When the machine is turned on, press “A + UP” repeatedly while the “SW Ver.” message is showing. When the word “Initialize?” appears, immediately press Enter. Then the message “Initializing...” will appear for a few instants.

Generally speaking, initialization is only needed in the event of the program resident in the card being updated; in this case, you will need to contact the manufacturer for further details.

DESCRIPTION OF THE CONTROLS (VERSION 40 E)

The “MODULE 40 E” labeling unit for self-adhesive labels is complete with a power switchboard and a push button control panel.

Switchboard

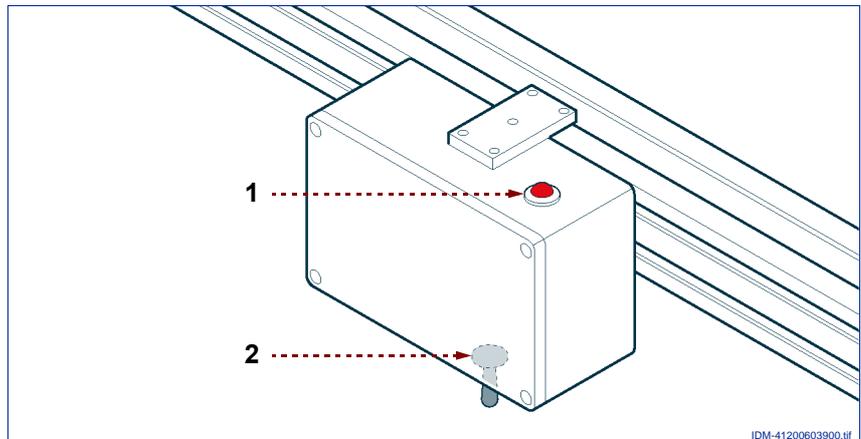
The switchboard, which is normally installed on the support tubing supporting the unit, contains the general circuit breaker for the labeling unit's electric circuit and a red light that comes on to indicate that the electric circuit is powered. The red light is situated on the top of the switchboard, while the circuit-breaker is on the underside. In certain special versions, the switchboard may be installed in a less accessible position, in which case the main circuit-breaker is situated on the push-button control panel whenever possible.

1) Power-on red light

The light comes on when the switchboard is connected to the power supply.

2) Main circuit-breaker

- Circuit-breaker in the "O" (OFF) position: the labeling unit's electric system is disconnected from the mains power supply; the red power-on light is off.
- Circuit breaker in the "I" (ON) position: the labeling unit's electric system is connected to the mains power supply; the red power-on light is on.



Caution - Precaution

The labeling unit is essentially intended for use as part of a labeling machine, not on its own.

The installer or user of the unit is consequently required to install an isolator in compliance with the EN standard 60204-1 upstream from the connection powering the unit and provide an emergency stop circuit in compliance with said standard.

In fact, the main circuit-breaker normally installed on the unit's switchboard cannot be considered as an isolator circuit-breaker or emergency stop device in compliance with the EN standard 60204-1.

Push button control panel

The push button control panel normally installed at the end of the unit, on the operator's side, contains a button and a two-tone light that will usually be either green or red.

3) Red/green two-tone light*Red*

The red light indicates that the machine is not ready to function; it may stay on continuously or flash on and off. The condition in which the light stays on continuously only occurs straight after turning on the machine and it simply means that the machine is in pause mode, waiting for the button to be pressed to begin a normal operating cycle. If the red light flashes on and off, it means that some anomaly has been detected (alarm), so the machine has automatically stopped. To start again, you need to deal with the anomaly and then press the control button. The light will flash differently depending on the type of anomaly detected, i.e.

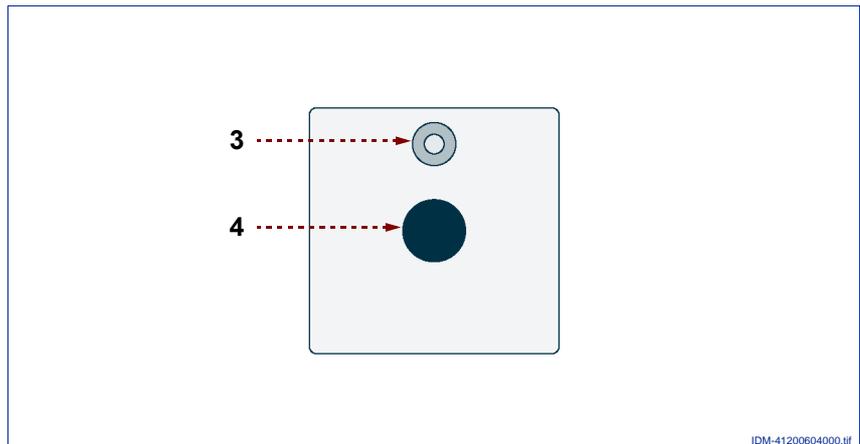
- 1 flash followed by a pause: two consecutive labels missing or motor cutout;
- 2 flashes followed by a pause: driving unit guard open or not locked in place;
- 3 flashes followed by a pause: reel empty;
- 4 flashes followed by a pause: optional alarm, generally relating to the empty reel sensor on the additional unwinding device, if any;
- 5 flashes followed by a pause: overheating or anomaly in the electronic card controlling the driving motor.

In the event of several anomalous conditions occurring at the same time, the light simply indicates the one identified by the smaller number of flashes.

Green

The green light only comes on during the procedure for adjusting the label delivery speed and during the procedure for the automatic adjustment of the label reading photocell (the latter is not available on all machines).

For further details, see the paragraphs on "speed adjustment" and "automatic adjustment of the label-reading photocell's sensitivity" in the chapter ADJUSTMENT INSTRUCTIONS.

**4) Control button**

The button has several functions:

START

When the red light is on, i.e. when the machine is ready to function, the button has a "start" function. If you press the button briefly (more than one tenth of a second but less than 2 seconds) the machine starts after being turned on (red light constantly on) or after a stoppage caused by an anomaly (red light flashing). However, if the anomaly that has caused the machine stoppage has not been overcome, or if there are several anomalous conditions involved, the machine will not start after pressing the button and the red light will continue to flash.

**Caution - Precaution**

Generally speaking, several MODULE 40 units are installed on the same labeling machine; in this case, up to 4 units can use the signal from the same encoder. The power to the encoder comes from only one unit, however, so when that particular unit is switched off, the other units using the same encoder are unable to function. If the unit powering the encoder is not needed to deliver any labels, it must be turned on anyway, but without pressing the control button, so that it remains in pause mode.

TEST

When the red light is off, i.e. when the machine is ready to operate and there are no anomalies, pressing the button prompts the delivery of a single label ("test").

The labeling machine containing the unit does not need to be in operation to be able to perform a test, nor does the START sensor need to generate a command signal. During the test, the unit takes action independently to drive the stepping motor at a constant speed, so the speed of label delivery will not be synchronized with the signal from the encoder.

For the following adjustments, refer to the chapter "Information on adjustments":

- speed adjustment

- automatic adjustment of the label-reading photocell's sensitivity
- manual adjustment of the label-reading photocell's sensitivity
- adjustments for narrow labels.



Important

The last two adjustments cannot be made from the push-button control panel.

INSERTING A REEL

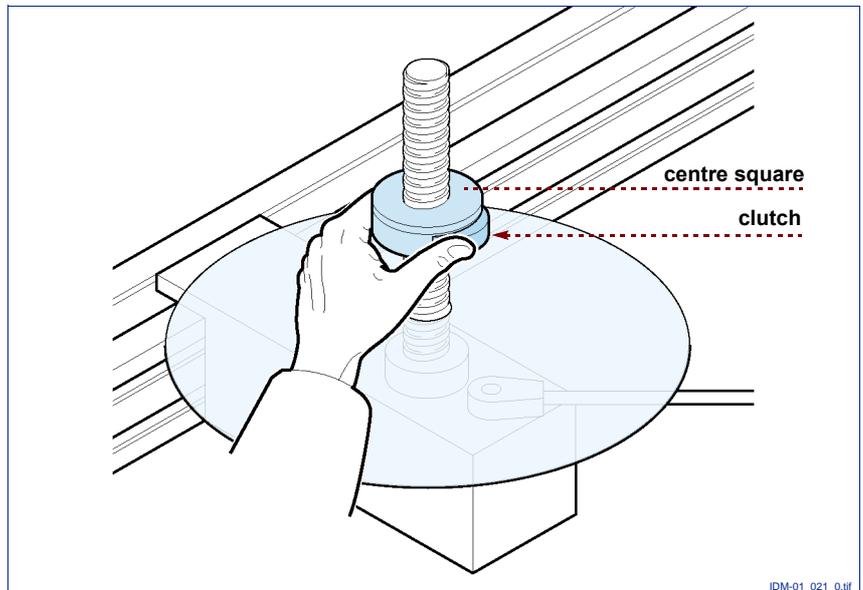


Important

The path covered by the paper varies slightly from one model to another. Refer to the figure attached to the guard over the driving unit to see the path the paper has to follow.

To introduce a new reel, follow these instructions:

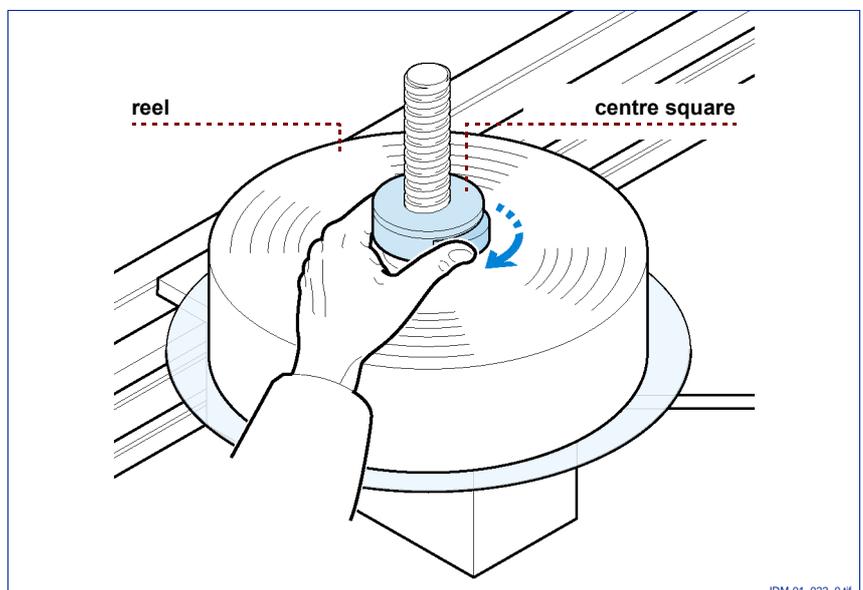
- 1 -take the **centre square** out of its housing by pressing the **clutch**;



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- 2 -Insert the new reel on the disk and put the centering device back in place, pushing it right down while pressing on the coupling.

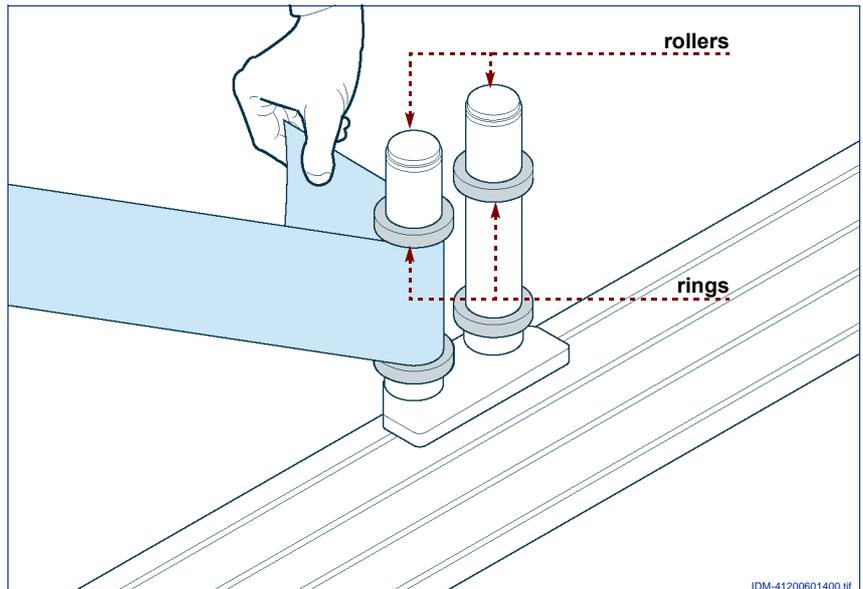
- 3 -Release the button and screw down the centering device for a fraction of a turn in order to lock the reel in place.



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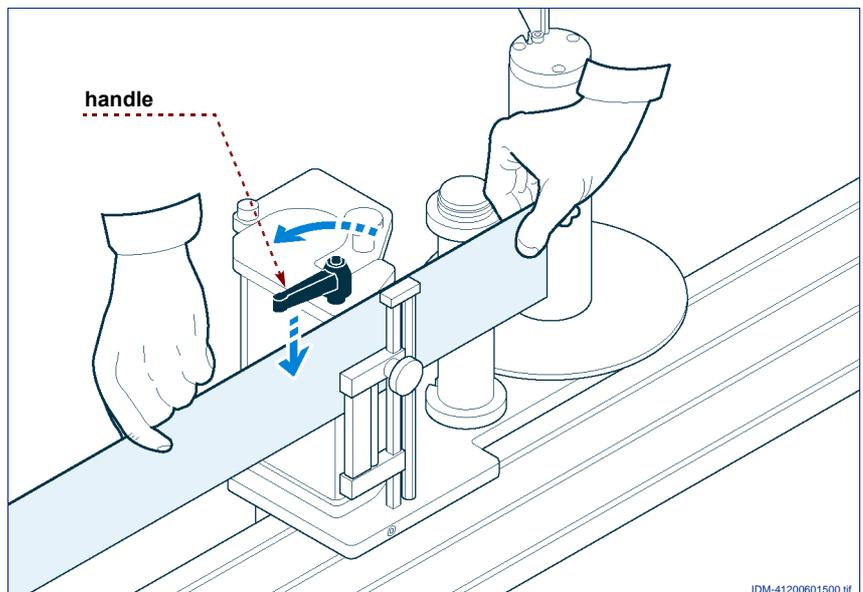
4 - Unwind about 1½ meters of paper and remove the labels from this stretch of paper.

5 - Thread the paper through the **rollers** and adjust the position of the **rings** so that they just come into contact with the edge of the paper.



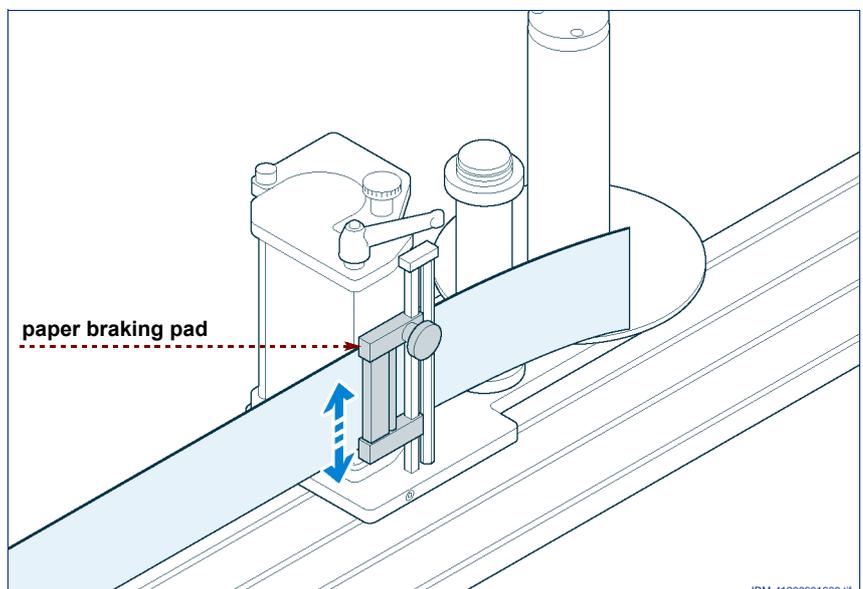
IDM-41200601400.tif

6 - Turn the **handle** to open the driving unit and thread the paper in from above. Close the driving unit again when you have finished.



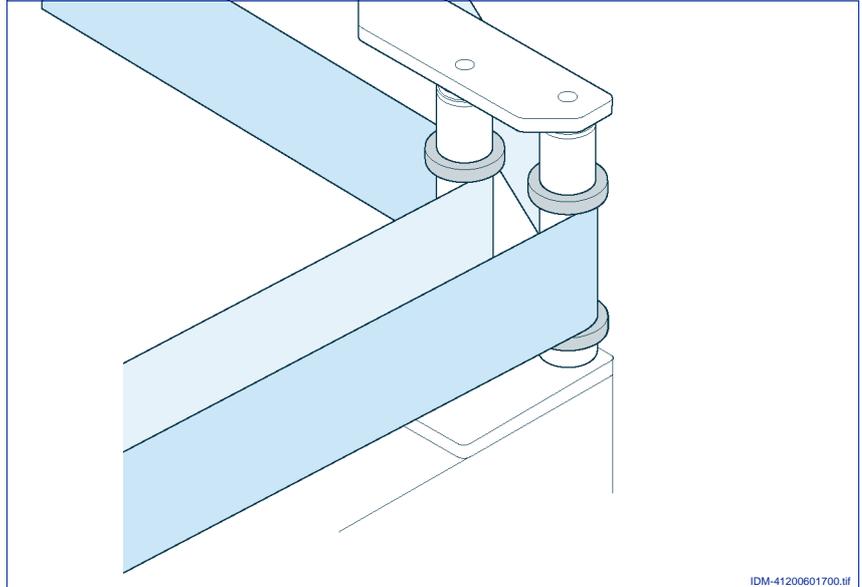
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7 - Position the **paper braking pad** in the center.



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8 - Pass the paper through the label detaching blade rollers.

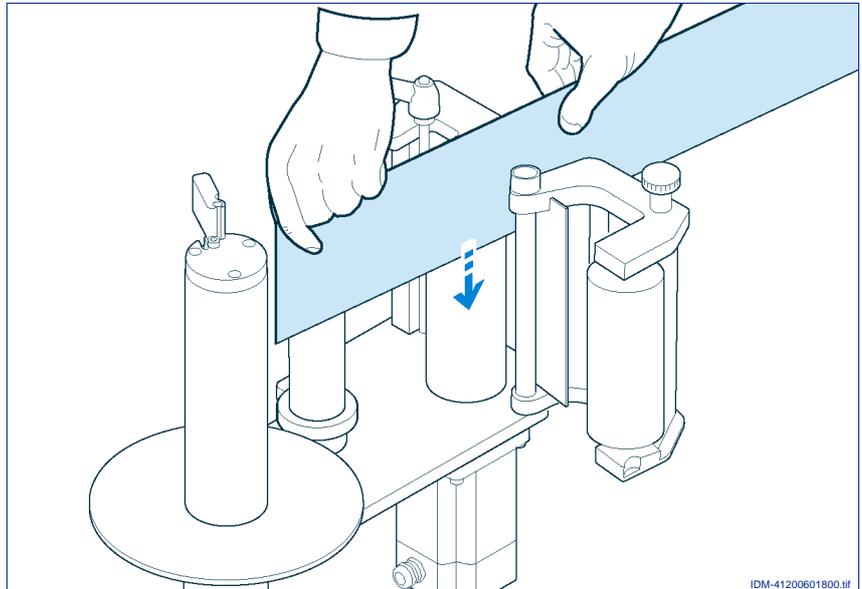


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9 - Thread the paper into the driving unit from above.

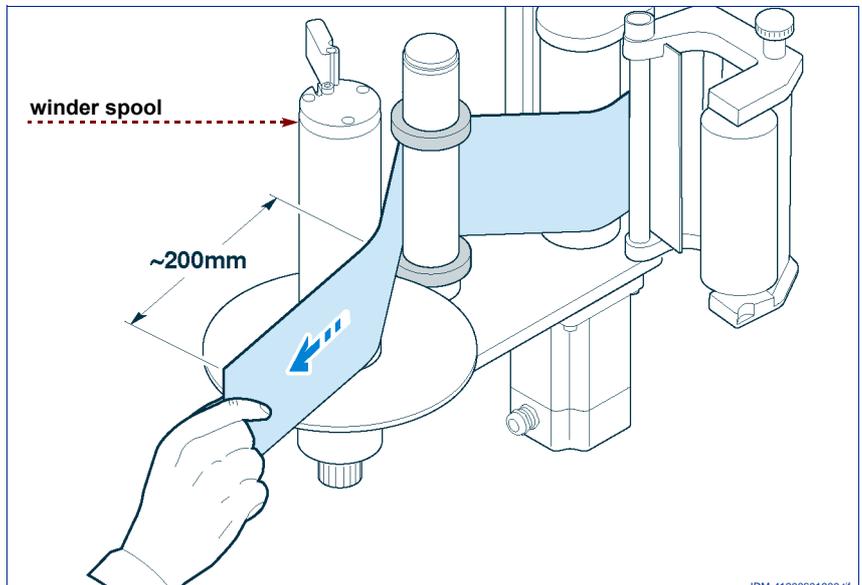
i Important

At this point, on versions MODULE 60 - 90 - 120, the paper passes through a system of dandy rollers, as indicated on the label showing the path covered by the paper (attached to the driving roller guard).



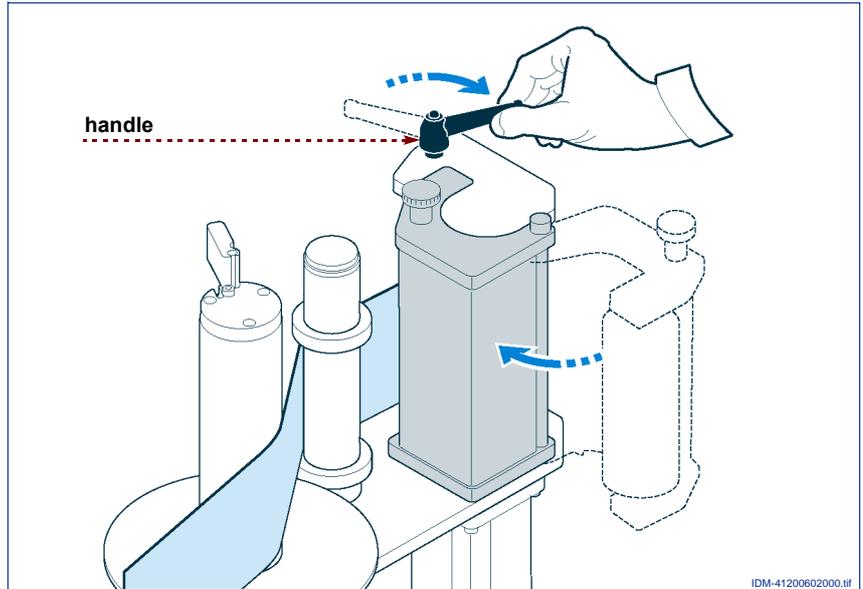
IDM-41200601800.tif

10 - Pull the paper about 20 centimeters beyond the winder spool (for Module 40 only).

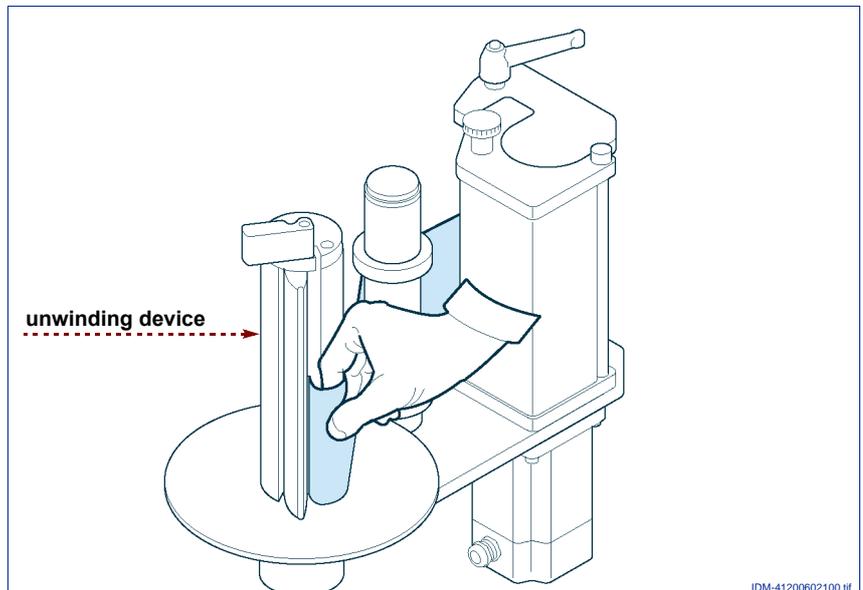


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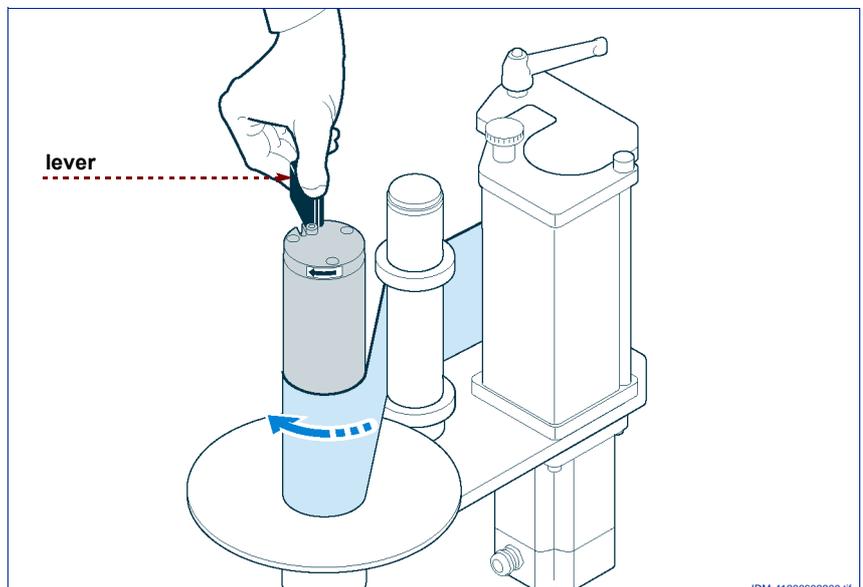
- 11 - Close the driving roller guard and bring the locking **handle** perpendicular to the paper braking pad.



- 12 - Thread up to about 10-15 mm of the paper into the **unwinding device**. If necessary, fold the paper over to double its thickness.



- 13 - Fix the end of the paper in place by turning the **lever** radially outwards and then turning in the direction indicated by the arrow.

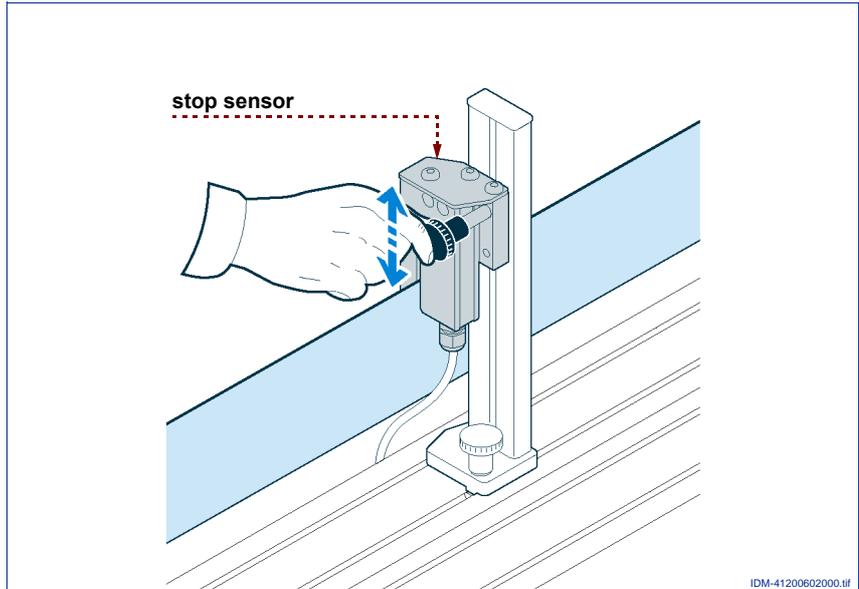


14 - Check the vertical position of the stop sensor.



Important

For proper operation of the stop sensor, position the reading point on an edge of the label that is as vertical as possible.



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REMOVING THE REWOUND PAPER

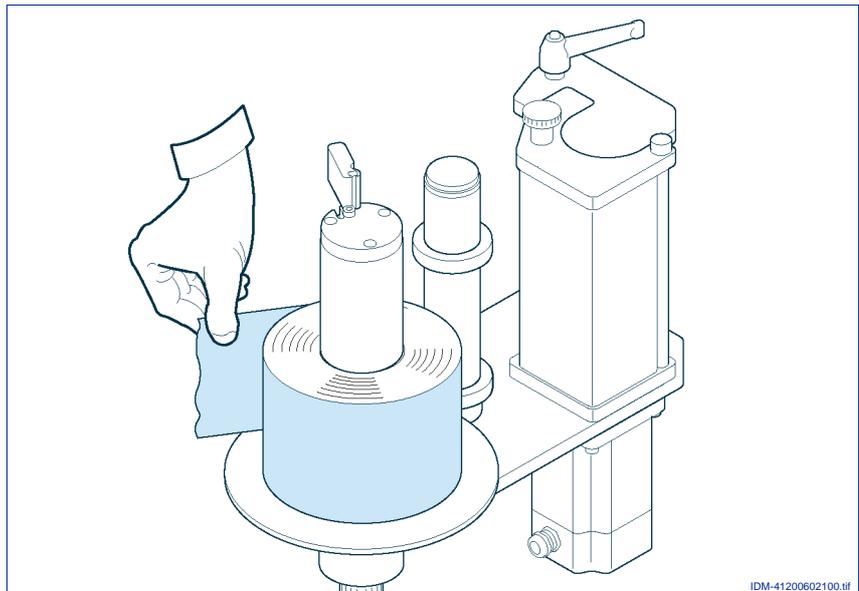
Proceed as follows.

- 1 - Tear off the paper near the winder spool.



Danger - Warning

If there is a dandy roller arm, tearing the paper can be dangerous because the dandy roller arm may jerk violently back outwards. In such cases, keep the dandy roller arm steady with one hand while you tear or cut the paper with the other.



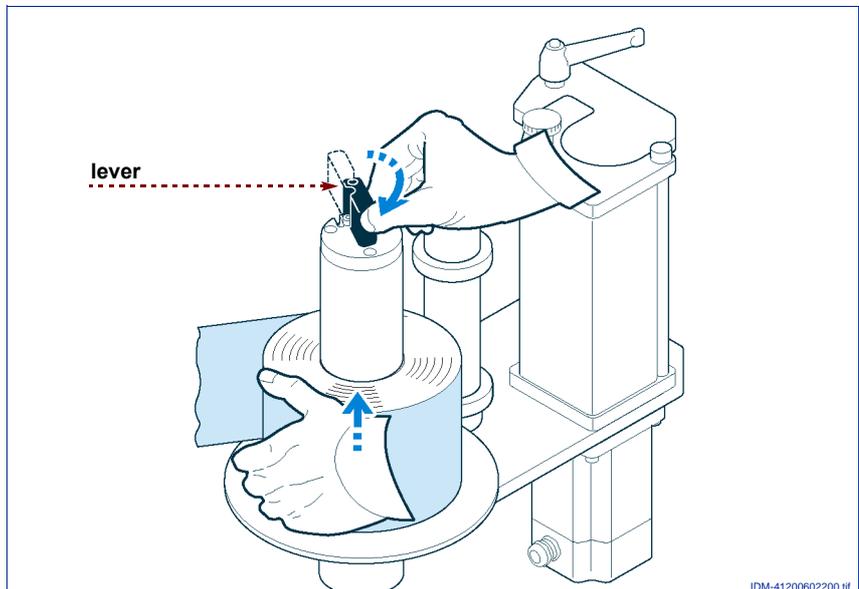
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- 2 - Move the lever radially inwards and remove the reel.



Important

The lever can only turn clockwise; do not attempt to force it the other way.



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MAINTENANCE INSTRUCTIONS



Danger - Warning

Maintenance operations shall be carried out by specifically qualified personnel, who have been trained for the purpose and possess the necessary skills and experience according to the applicable regulations. Maintenance operations shall be carried out when the machine is not connected to the power supply.



Important

Oxidation may damage the metallic parts and the electrical equipment.

In order to protect the equipment during long periods of non-operation, disconnect the power supply and cover the machine with a cloth of an appropriate material.

CLEANING OPERATIONS

- Cleaning and scheduled maintenance operations are absolutely necessary to obtain correct operation and a long service life of the machine.
- We recommend an effective and periodical cleaning of the machine and of the whole operating area, as this represents an additional safety factor for the operator.
- Do not use water, petrol or any solvents, as they may damage the machine paint, the transparent parts, etc. Use only neutral detergents.
- Remove all the dust from the equipment external surfaces. Use an air jet for the inner parts.



Important

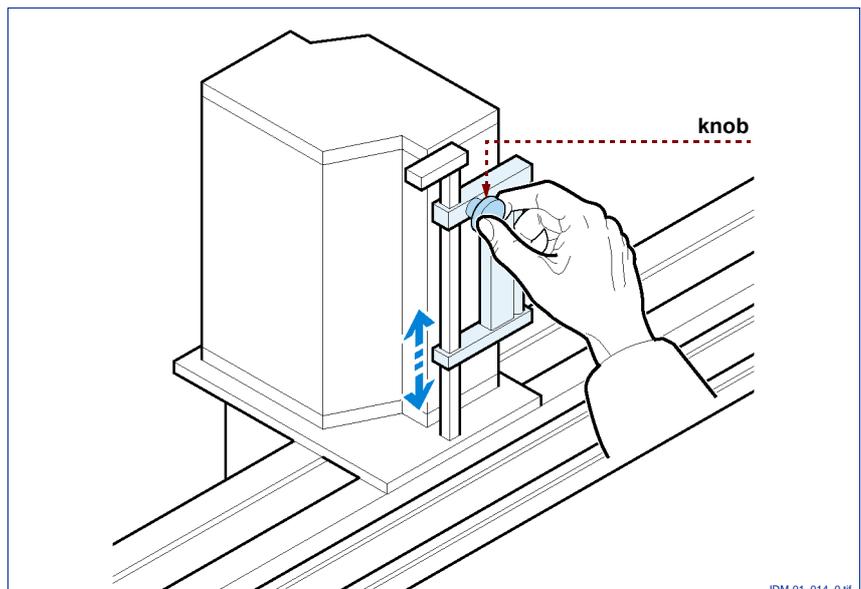
The solvents to use to clean any scraps of adhesive can vary according to the type of adhesive being used.

Contact the supplier of the labels to choose the most suitable type of solvent. It is essential to avoid using petrol-based solvents to clean plastic, rubber or painted parts; do not use butanone or any of the other solvents generally used for cleaning away ink, in particular.

CLEANING THE PAPER BRAKING PAD

Proceed as follows.

- 1 - Loosen the **knob** and align the bracket with the turned areas on the columns.



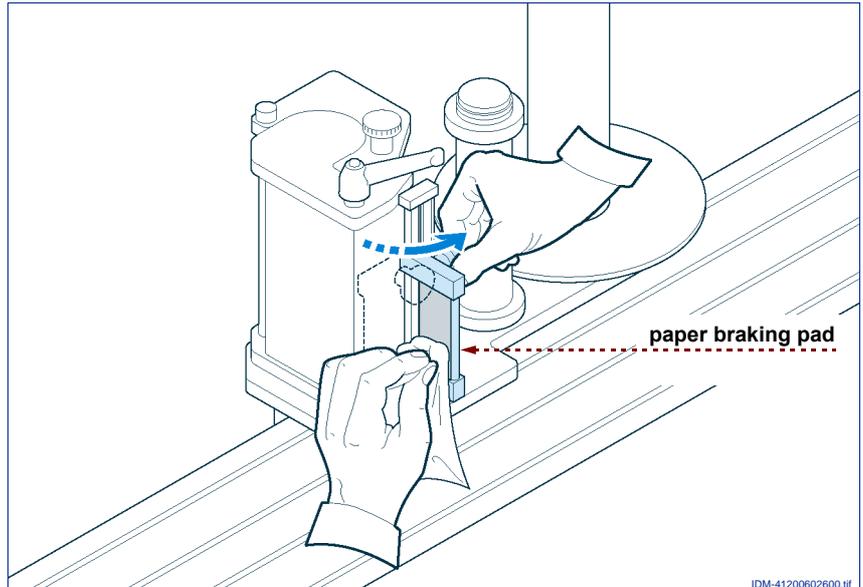
2 - Gently turn the **brake pad** and clean it with a soft cloth dipped in a suitable solvent. You can use spirit or citric acid based solvents in this case.

3 - Restore the brake to its original position and tighten the knob once again.



Important

Never scratch the reflecting surface because it could rapidly become damaged.



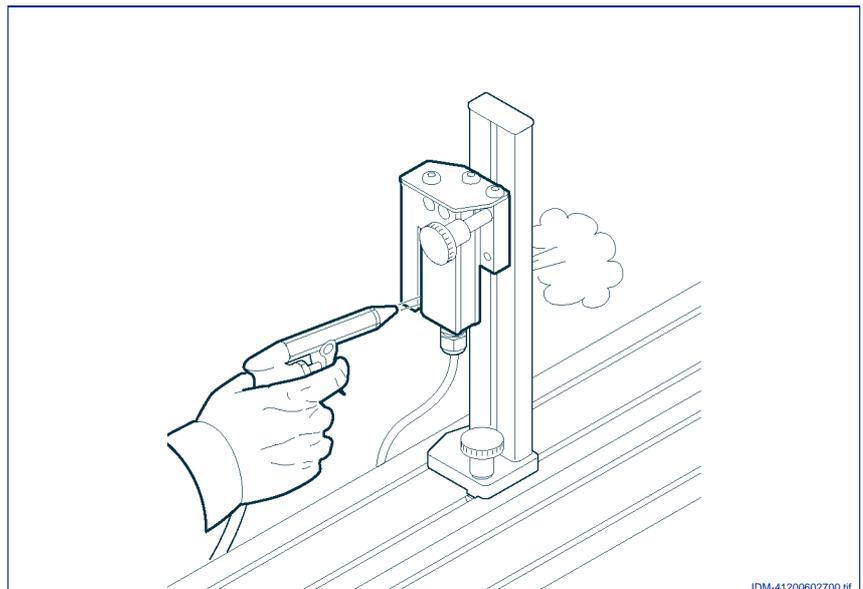
CLEANING THE STOP PHOTOCELL

Clean the inside of the groove for the passage of the paper with a jet of clean air.



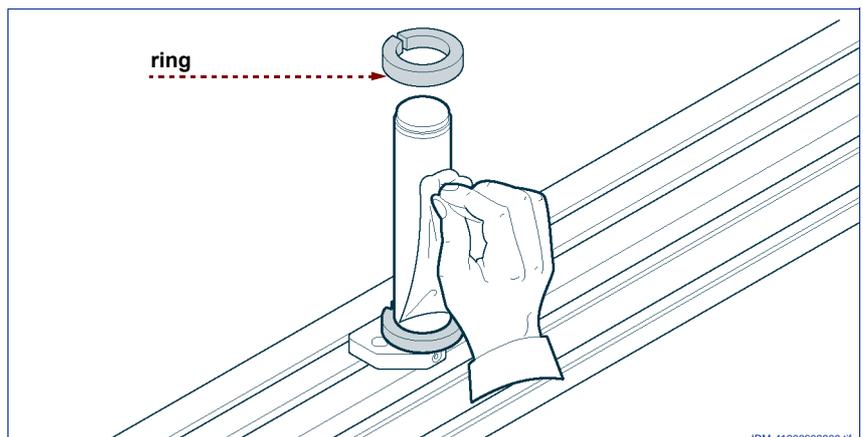
Important

The air pressure must be no higher than 1 bar.



CLEANING THE DIVERTER ROLLERS

Remove the paper guiding **rings** and clean with a cloth dipped in a liquid detergent. Do not use sharp tools that could damage the surface treatment. You can use spirit or citric acid based solvents in this case.



CLEANING THE RUBBER ROLLER/COUNTER-ROLLER

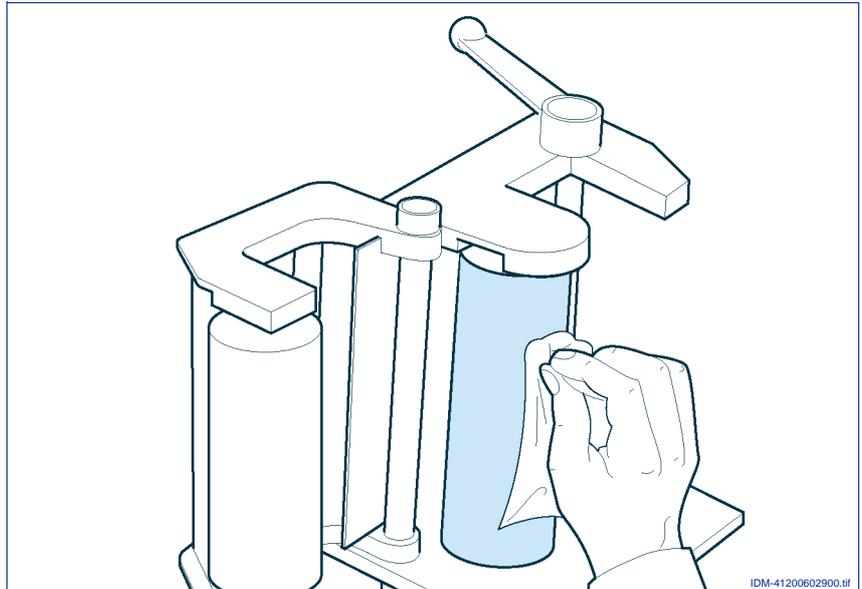
Proceed as follows.

- 1 - Open the driving unit and clean with a cloth dipped in a liquid detergent. Do not use sharp tools that could damage the surface treatment.
- 2 - Dry thoroughly after cleaning.



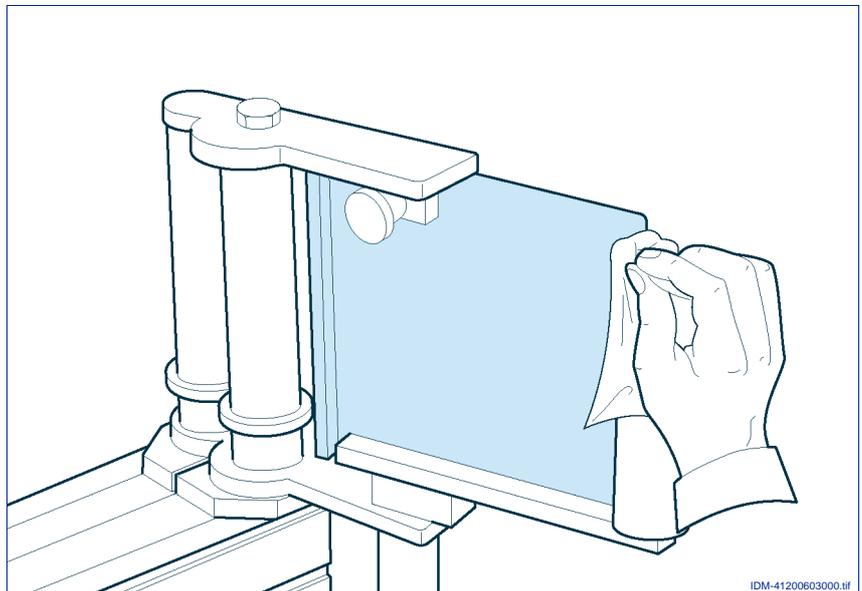
Important

This is usually the most heavily-soiled area. If spirit or citric acid based detergents are not effective, ask the supplier of the labels which solvent is most suitable for removing the adhesive without damaging the rubber. If necessary, dismantle the counter-roller assembly as illustrated in the section "Changing the driving rollers" to clean them more thoroughly.



CLEANING THE LABEL DETACHING BLADE

- 1 - Clean the edges of the label detaching blade with a cloth dipped in detergent.
- 2 - If necessary, dismantle the label detaching blade as explained in the section "Changing the label detaching blade" to clean it more accurately.



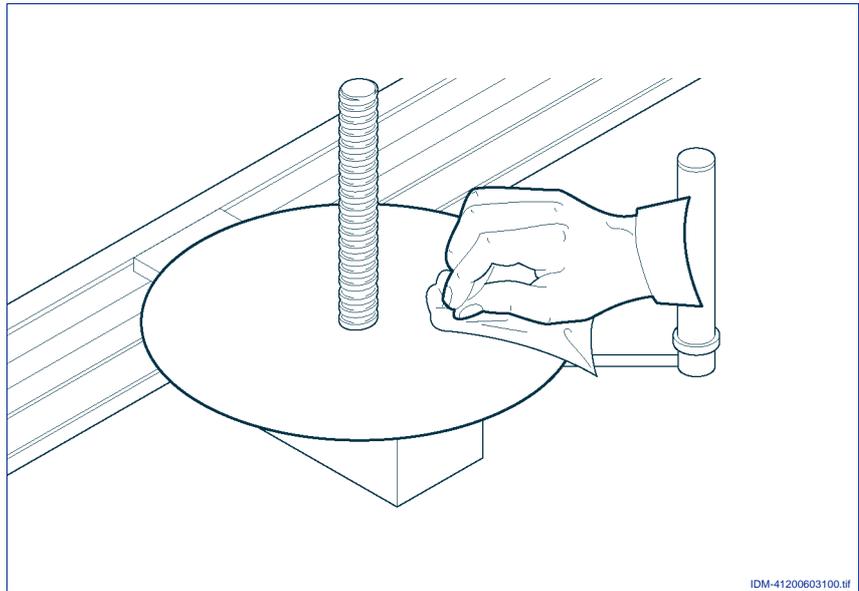
CLEANING THE REEL CARRIER DISKS



Important

Do not use oils or hydrocarbon-based solvents (e.g. petrol, spirit or the like) to clean the transparent disks, since they could be damaged.

Clean with a soft cloth dipped in a neutral detergent (soap).



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FAULT FINDING INSTRUCTIONS



Danger - Warning

Before acting on any electric part, disconnect the labelling unit switchboard upstream. Any necessary intervention with the switchboard

connected to the power supply shall be carried out by a qualified and authorised electrician.

GENERAL PROBLEMS

PROBLEM	CORRECTIVE ACTION
<p>The unit is not working: no labels are ejected and the main switch pilot light is off.</p>	<p>Check that the main switch is enabled.</p>
	<p>Check connection of the unit to the power supply network upstream.</p> <p>Check that the safety fuses of the network voltage supply, as shown in the electric diagram, are efficient; otherwise, replace them with new fuses with the same capacity and features.</p>
<p>The unit is not working: no labels are ejected, the main switch pilot light is on, but the other pilot lights are off.</p>	<p>Referring to the electric diagram, check that the safety fuses of the 24-VDC feeder are efficient; otherwise, replace them with new fuses with the same capacity and features.</p>
	<p>If the fuses are working and in good order, check operation of the 24-VDC feeder with the switchboard under voltage by measuring the output voltage with a voltmeter and observing the feeder pilot lights (to check that they are on). Replace the feeder with an original spare feeder, if necessary.</p>
	<p>Check that the fuse on the PL001 card is working and replace it with another fuse with an equal capacity and features, if necessary.</p>

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PROBLEM	CORRECTIVE ACTION
The unit is not producing labels and the red pilot light is flashing, even if the RESET push-button is pressed.	<p>Check that the guard of the driving rollers is properly closed. To do this, open it and then close it again with strength, by operating the locking lever completely.</p> <p>Open the unwinding device box and check that the end-of-reel sensor pilot light is constantly on (the sensor is normally covered by the blade integral to the dandy roller, and must be uncovered only when the dandy roller quickly goes back in its stop position).</p> <p>Check that the temperature of the power switchboard dissipator does not exceed 65°C. Turn the main switch off, wait until the dissipator is cool and then turn the switch on again.</p> <p>Check the stepping motor operation pilot lights with a powered switchboard: only the green pilot lights must be on.</p> <p>Referring to the electric diagram, check that the fuse protecting the stepping motor operation feeding is efficient and replace it with another fuse with the same capacity and features, if necessary.</p>
The unit stops with a flashing red light, without any apparent cause. The pilot light is turned off by pressing RESET, but it is newly turned on (flashing) at production of the subsequent label.	<p>When the unit is turned off and then on again, it measures the length of the label based on the first four labels ejected. If during the ejection of the first four labels an anomaly has occurred, it is advisable to turn the unit off and then on again so that the measurement of the length of the label is repeated.</p>
The stepping motor runs during the test procedure (carried out by operating the TEST command), but it does not run during normal operation with the labelling machine working.	<p>Check that the START photocell is working regularly, i.e. emits a 24VDC signal when it is in the light and a 0V signal when it is darkened by the passage of the bottle to be labelled.</p> <p>Check that the encoder is mechanically and electrically connected. In case of any doubt, replace the encoder with an original spare part.</p>
Many subsequent labels are ejected together instead of one by one.	<p>Check that the STOP photocell is positioned at the correct height to allow the label to darken it only once for each ejection.</p>
The labels is curled when it is stuck onto the bottle.	<p>Progressively reduce label ejection speed.</p>
The label is dragged by the bottle during sticking.	<p>Progressively increase label ejection speed.</p>
The STEP LIMIT alarm appears on the display.	<p>The label protrudes too far from the label detaching blade, so the bottle drags the paper in the opposite direction to the motor. Reduce the length of label protruding from the paper by reducing the value of the STOP DELAY parameter, referring to the following table:</p> <p>MODULE 40 one unit corresponds to 0.25 mm MODULE 60-90 one unit corresponds to 0.33 mm MODULE 120 one unit corresponds to 0.50 mm</p>
The STEP LIMIT alarm appears on the display.	<p>The stop sensor fails to read the labels on the backing tape correctly. Check the electric connections and the position and setting of the stop sensor.</p> <p>The motor fails to overcome the friction.</p>
The STEP LIMIT alarm appears on the display.	<p>Reduce the force on the paper braking pad (see adjustments chapter).</p> <p>Apply a Teflon adhesive tape to the label detaching blade.</p> <p>Make sure that the counter-roller is not overloaded.</p> <p>Make sure that there are no labels or paper stuck in the driving unit.</p>

PROBLEM	CORRECTIVE ACTION
The STEP LIMIT alarm appears on the display.	<p>The dandy roller on the unwinding device fails to follow the paper smoothly, creating a "bumping" effect that brakes the motor. Make sure that the reel carrier disk is not touching the dandy roller arm; if necessary, shift the reel carrier disk a fraction higher up.</p> <p>Check manually to ensure that the dandy roller has a smooth and "flexible" movement along its stroke and the reel is braked when the dandy roller is in its outermost position (at rest). If necessary, dismantle the box from the unwinding device unit, referring to the drawings in the "Assembly drawings" document, to make sure that the spring is intact and check the position of the corresponding square plate and the effectiveness of the braking belt.</p>
The STEP LIMIT alarm appears on the display.	<p>The dandy roller on the unwinding device reaches the end of its stroke. The turning rate of the carousel may be too high to allow for an instantaneous start at the labeling unit's maximum speed. Reduce the speed of the carousel during the MODULE's startup from a standstill.</p>
The labels do not always stop in the same position with respect to a fixed point on the labeling Module (e.g. as you look at one edge of the stop sensor).	<p>The stop sensor fails to read the labels on the backing tape properly or the driving roller is slipping on the paper being rewound. Check the electric connections and the position and setting of the stop sensor (ch. 4). Check the calibration of the counter-roller supporting springs (ch. 3).</p>
The labels do not always stop in the same position with respect to a fixed point on the labeling Module (e.g. as you look at one edge of the stop sensor).	<p>There is too much slack on the driving roller. Check the slack on the driving roller and, if necessary, tighten the belt (Module 120). In the models without a belt, check the tightness of the roller fixing pin on the drive shaft. Refer to the "Assembly drawings" document for further details.</p>
The labels are delivered alternately, every other bottle.	<p>From the display, lower the value of the START DELAY parameter, or increase the RAMP parameter by 1 unit.</p>
The labels' backing paper remains loose after the label has been attached to the container.	<p>The label does not protrude far enough from the label detaching blade and is pulled off the backing paper before the driving motor has stopped. Increase the length of label protruding from the tape by increasing the value of the STOP DELAY parameter, referring to the following table: MODULE 40 one unit corresponds to 0.25 mm MODULE 60-90 one unit corresponds to 0.35 mm MODULE 120 one unit corresponds to 0.50 mm</p>
The backing paper shifts vertically during the labeling process.	<p>The edge of the label detaching blade is not properly aligned with the edge of the bottle. Take action on the adjustment knobs on the 5 axis column, if any, or add a shim under the base of the label detaching blade unit.</p>
The backing paper shifts vertically during operation.	<p>The unwinding device or winder disks are not on the same level. Check the positions of the disks and of the paper guiding rings.</p>
The paper being rewound wraps around the driving roller.	<p>The winder is not turning fast enough and fails to recover the paper coming from the driving unit. <i>For the Module 60-90-120:</i> dismantle the winder box and make sure that the photocells shutter uncovers all the fork photocells when at rest in its outermost position. To remove the paper wrapped around the roller, switch off the unit at the switchboard, tear the paper and pull it off. <i>For the Module 40:</i> gradually screw down the clutch adjustment knob on the winder spool until you obtain a smooth operation.</p>
The top or bottom edge of the paper being rewound is damaged.	<p>The unwinding device or winder disks are not on the same level. Check the levels of the disks and of the paper guiding rings.</p>
The value shown during the TEST varies by more than the allowable threshold of +/- 2 units.	<p>The stop sensor does not read the labels on the backing tape properly or the driving roller is slipping on the paper being rewound. Check the electric connections and the position and setting of the stop sensor (ch. 4). Check the calibration of the counter-roller supporting springs (ch. 3).</p>

PROBLEM	CORRECTIVE ACTION
The labeling unit runs on half speed.	One of the three phases of the encoder is faulty. Change the encoder.
The paper on the winder spool is wrapped like a "cone" or like a "fir tree".	Check the alignment/level of the unwinding device and winder plates, which must coincide. Also align the paper guiding rings. The dandy roller arm may be loose or misshapen. Take steps to repair or replace it.
The conical reel centering device tends to work loose (the diameter of the central cardboard tube is too small for the weight of the reel)	Order a self-locking blade centering device, code GR-0471-A, from the manufacturer (specifying the internal diameter of the cardboard tube).

PART REPLACEMENT INSTRUCTIONS

For any disassembly operations, refer to the "Assembly drawings" document. Many screws are protected by plastic caps, which can be removed with the aid of a small screwdriver to access the head of the screw underneath.

Component replacement due to breaking or wear is

included in the unscheduled maintenance operations. Such components shall be replaced in appropriately equipped workshops by specifically qualified technicians. Replace components with original spare parts only. For any further information contact Pack Lab's Service Department.

WINDING/UNWINDING UNIT - DISASSEMBLY

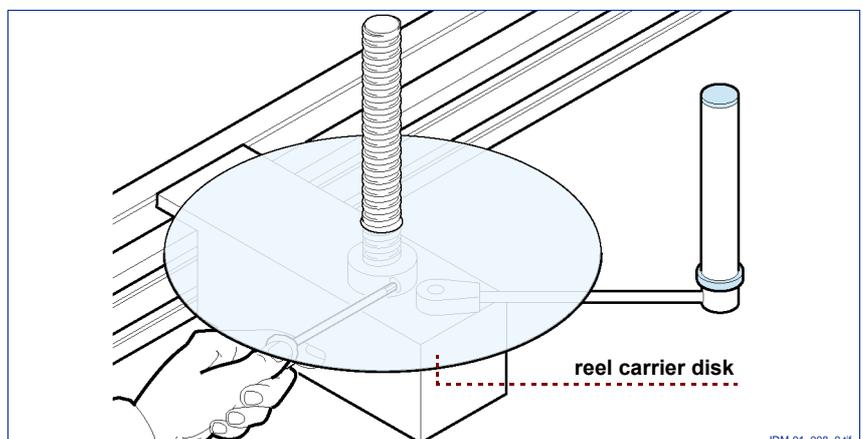
These two units must necessarily be disassembled in order to carry out any further operations on the bench on the units themselves:



Important

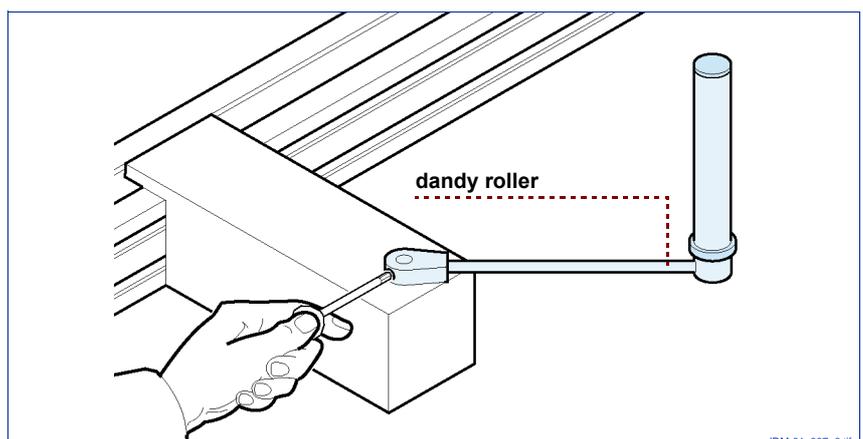
Disconnect the feeding cables of the motor before carrying out any intervention on the unit.

1 - Unscrew the fastening screw and disassemble the **reel carrier disk**.



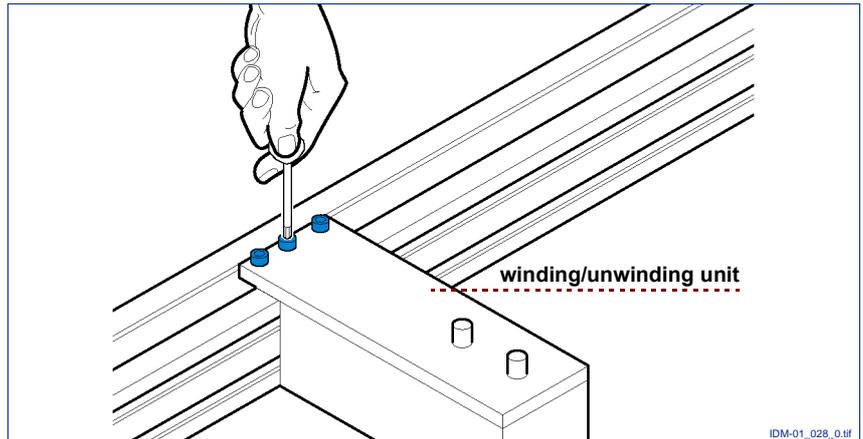
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2 - Unscrew the fastening screw and disassemble the **dandy roller**.



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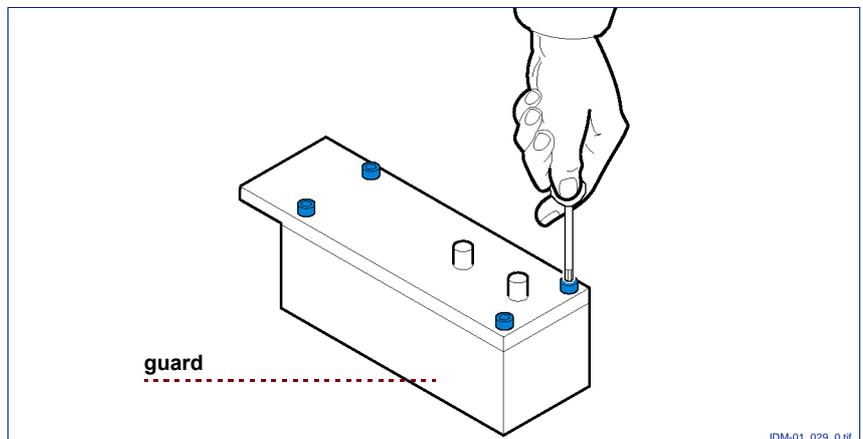
- 3 - Unscrew the fastening screws of the **winding/unwinding** unit.
- 4 - Take the unit on the bench.



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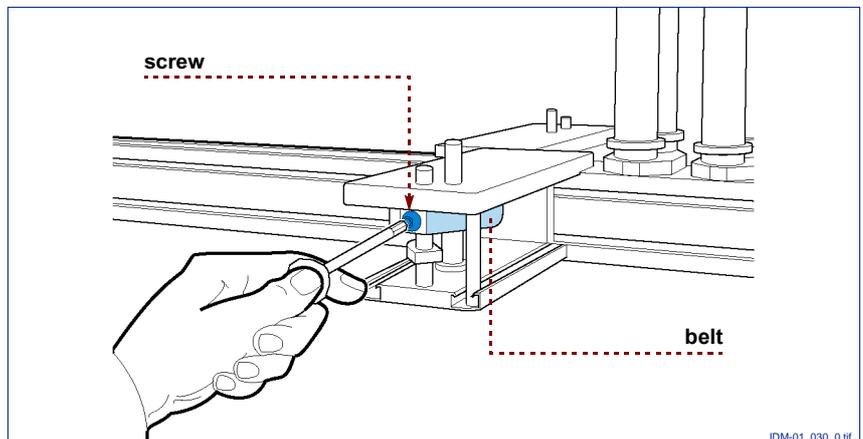
UNWINDING UNIT BRAKE BELT - REPLACEMENT

- 1 - Disassemble the unwinding unit by taking it onto the bench.
- 2 - Unscrew the fastening screws of the **guard** and disassemble it.



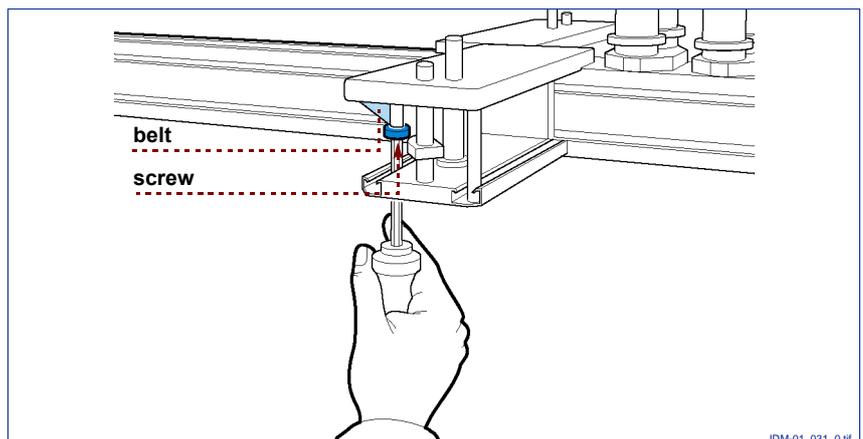
IDM-01_029_0.tif

- 3 - Unscrew the fastening **screw** of the **belt** and unwind it from the wheel.



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- 4 - Unscrew the **screw** located under the other end of the **belt** and take it out until you can remove the belt.
- 5 - Fit a new belt and repeat assembling operations the other way round.



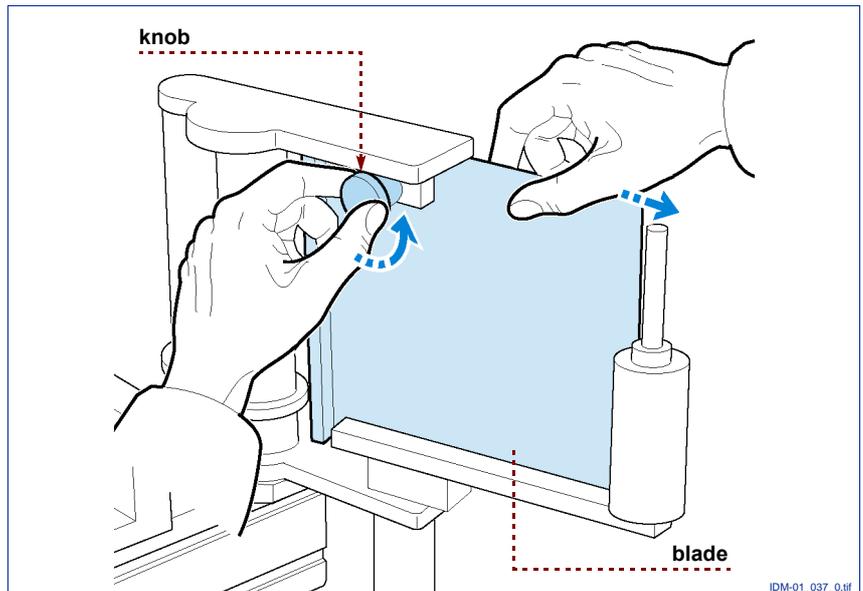
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LABEL DETACHING BLADE - REPLACEMENT

Blade replacement might also become necessary when a new bottle format is used.

Carry out the following operations:

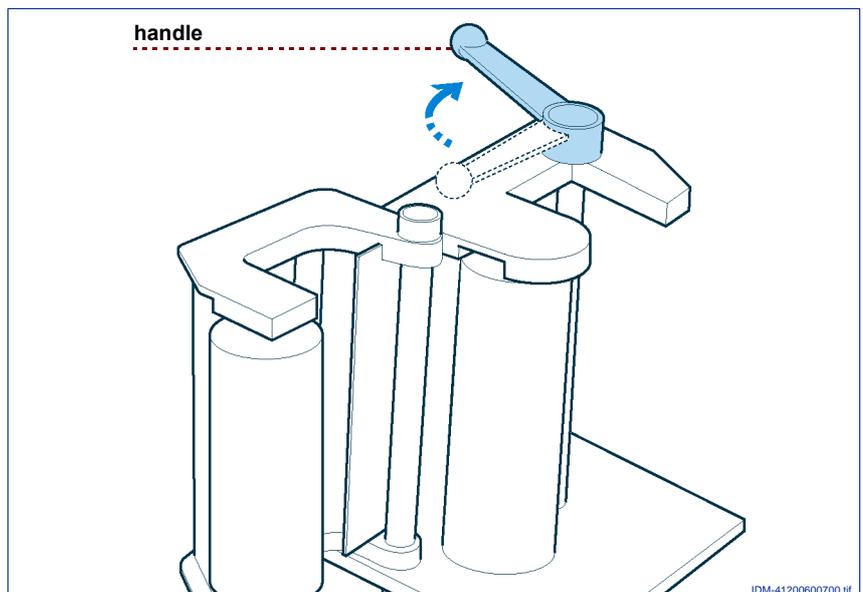
- 1 -loosen the locking **knob** and remove the **blade**;
- 2 -Push the new label detaching blade right down until it comes up against the frame;
- 3 -when the blade has been replaced, tighten the **knob**.



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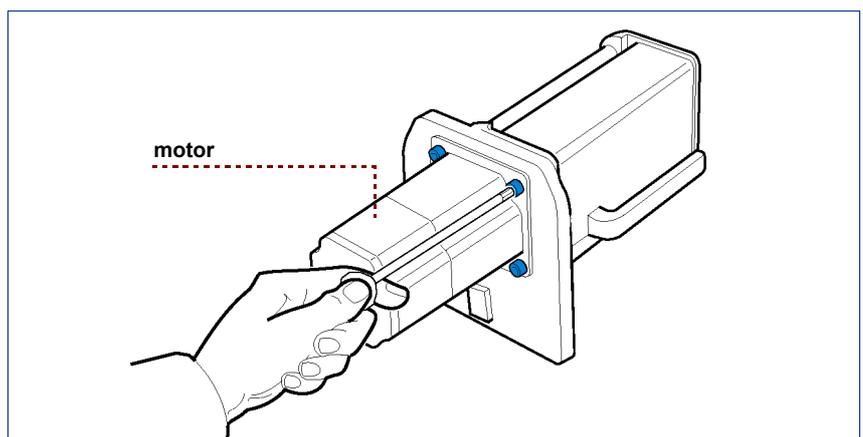
DRIVING UNIT MOTOR - REPLACEMENT

- 1 -Disconnect the motor cables and take the unit onto the bench.
- 2 -Open the driving unit by releasing the **handle**.



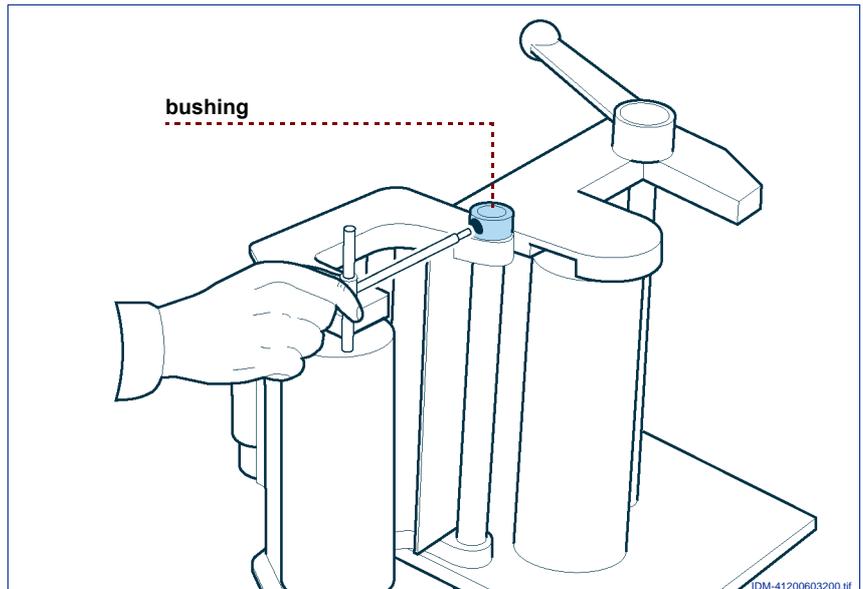
IDM-41200600700.tif

- 3 -Unscrew the **motor** fastening screws.

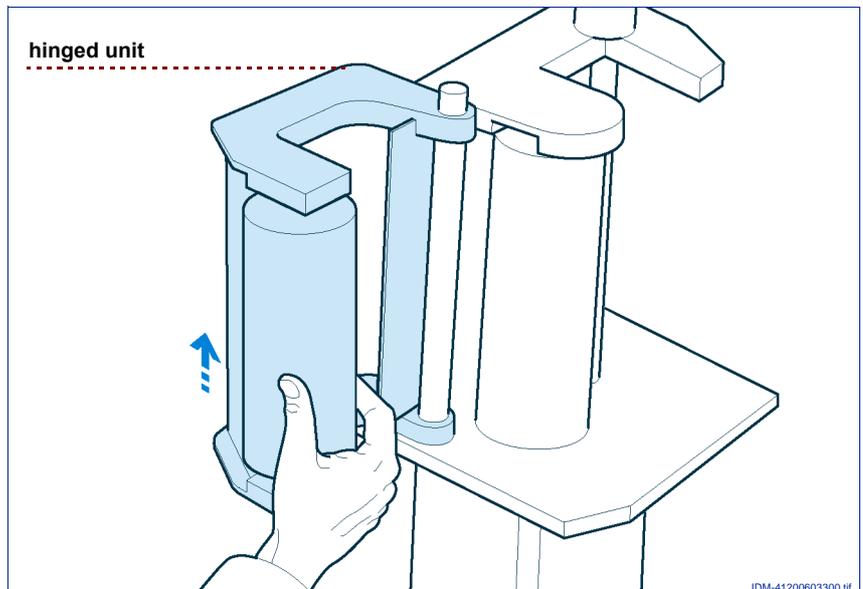


IDM-01_038_0.tif

- 2 - Unscrew the hinge screw until you can remove the **bushing**.

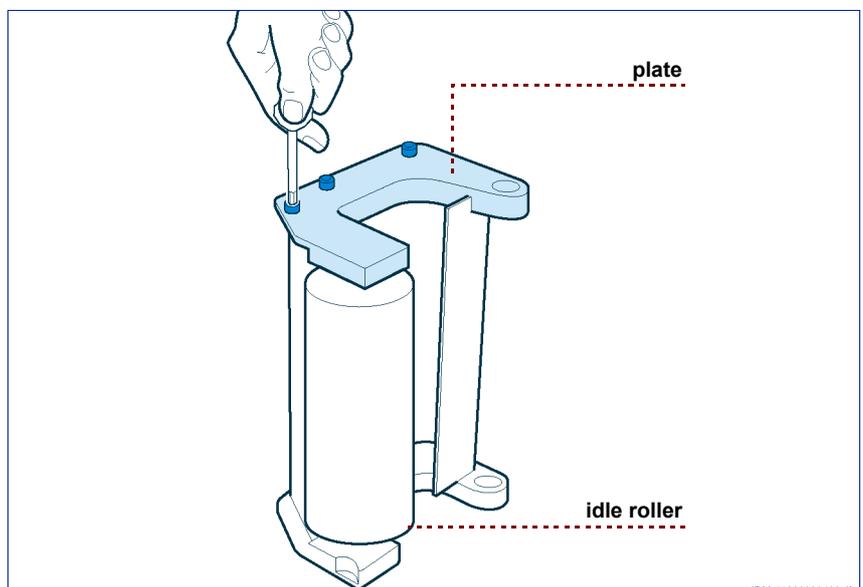


- 3 - Remove the **hinged unit** from its housing.



- 4 - Unscrew the fastening screws of the upper **plate**.

- 5 - Now you can remove the **idle roller** from its housing; to mount a new roller, follow the same operations the other way round.



DISPOSAL OF THE MACHINE

In case of machine disposal, please address to the Manufacturer, who will arrange for and authorise it according to the applicable laws and regulations in force.