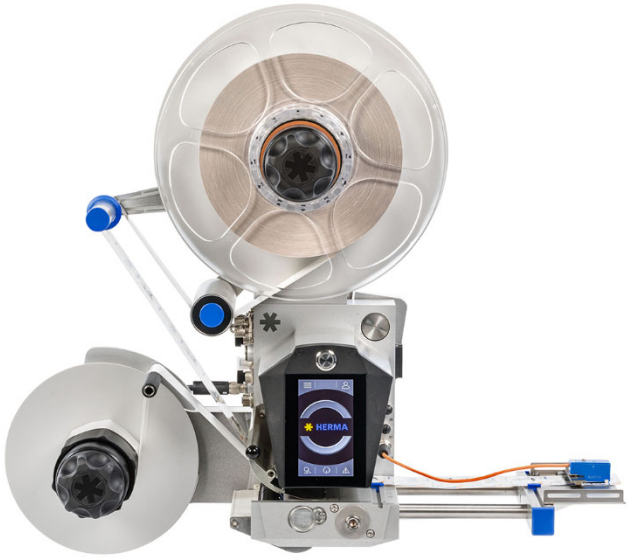
Documentation Applicator

HERMA 500



> Safety

> Quick Guide

> Operating Instructions

625817 • 1.10 GB (2019/02/28)

HERMA GmbH • Labelling Machines Division • 70791 Filderstadt • Germany

www.herma.com
www.herma.com/machines

www.youtube.com/HERMAlabeler

info@herma.com

Table of Contents

Before using the product, read all the instructions and make sure you have understood everything.

The instructions contain important information for protecting your personal safety. Anyone who works on this machine at any stage in production must have read and understood these instructions.

The "General information" chapter, which contains information about all types of safety instructions and what they mean, and the "Safety" chapter, which provides detailed information about your personal safety and the responsibilities of various users of this product, are especially important.

Find out about the applicable accident prevention regulations at the operation site, as well as general safety regulations.

Keep these instructions and all supporting paper documents ("documentation") such as the wiring diagram in a safe place for later use.

This documentation is an integral part of the machine. It must be available at the operation site at all times for the entire service life.

Failure to have the instructions available at all times could result in serious injuries, including death, or damage to property.

If the machine is resold, the complete documentation must be handed over to the new owner.

Note that you as the operator of the machine bear the risk and liability in the following situations:

- Failure to comply with these instructions
- Use other than as intended
- Use by untrained staff
- Connection to an unauthorised electrical system
- Use of unauthorised replacement and spare parts
- Repair and replacement of the product or a part of it due to normal wear, vandalism, accidents, negligence or other reasons for which the manufacturer is not at fault
- Repairs, modifications or settings on the product made by or on behalf of the customer without the manufacturer's written consent
- Improper raw materials or supplies
- Inappropriate use
- Improper use
- Misuse
- Accident
- Modification

- Lacking or improper maintenance
- Use of the product after significant wear
- Similar cases

Observe the safety instructions in the operating instructions.

Click/tap on the header or the + icon for these instructions to read the entire text. Click/tap on − to collapse the text.

Quick guide

Set-Up Mode

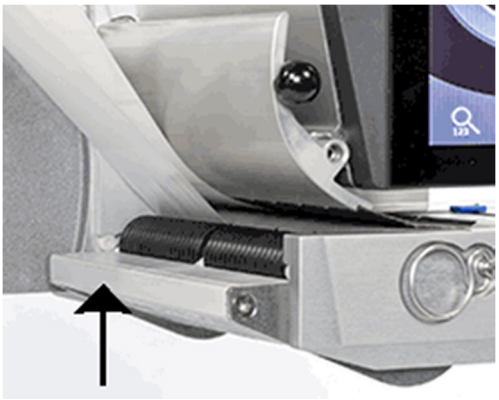
When you start up the HERMA 500 applicator for the first time, it is important to configure the appropriate parameters and make the necessary settings for your task. To make this process as easy for you as possible, we have provided a set-up mode that guides you through the initial settings.

We recommend performing this set-up. Open this set-up mode in the “Extended settings” operating menu.

Familiarise yourself with the various types of parameter beforehand by reading the “Opening and Editing Parameters” section.

Important Points and FAQs

- The most important thing when operating your applicator is always your safety. We expressly advise you to study the relevant safety chapters (including “Safety first!” and “Safety instructions”) and follow the instructions.
- Ensure that the applicator is properly mounted. If necessary, read the mounting and fastening instructions in the chapter “Installing the applicator”.
- When inserting the label web, observe the included/applicable threading diagram. See the “Label web threading diagram” section.
- Make sure that the label reel is securely clamped and, if installing vertically, that the counterholder is installed.
- The label web can be transported only when the clamping plate on the base unit’s transport roller is closed. See the “Drive/transport roller” section. If the clamping plate is open during operation, error message SM148 may appear.



- It is also important to adjust the brake plate correctly (“Label web brake” section). The braking force has been preset at the factory. It can be adjusted if necessary. The label web should pass through smoothly but with noticeable resistance.
- Make sure that the label sensor is adjusted correctly. If necessary, read the explanations in the operating instructions.

- Did you make all the connections required for your task? Are the connections secure? See the “Electrical connection” section.
- Familiarise yourself with the menu navigation so that you can quickly access the necessary settings. The “Menu navigation” section describes the operating menu in detail along with the icons used.
  You can swipe through the menus vertically, as on a smartphone, but not horizontally.
  Please note that some parameters can only be displayed or cannot be displayed depending on other parameters.
- In order to access the functions or parameters you must log in to the control program. See the “Login” section.
- If you cannot select the ⏻ key for switching on the operating mode (greyed out), you are not authorised to use this function. You can activate the function by setting the “Activate access / standby” parameter in the “Access” submenu of the Extended settings menu to “Internal display only”.
- If you want to carry out certain operations such as changing the name of the format, updating the firmware, backing up the device, etc., you have to operate the applicator from an external system with a keyboard and a mouse. You can do so by establishing an Ethernet connection from an external terminal, for example a PC. See also the instructions on Ethernet connections in the Extended settings
- You can find notes on products, components, settings, replacement parts, FAQs and much more on the Internet at https://www.herma.com/machines.

Threading the Label Web

See the “Label Web Threading Diagram” section.

Menu Navigation

Familiarise yourself with the structure of the operating program and its menus in the “Menu Navigation and Structure” section.

See the “Opening and Editing Parameters” section to learn about the parameters available.

Read the “Start Screen Parameters for Quick Access” section to learn how to save frequently used parameters as favourites on the start screen.

The “Direct Parameter Access” section explains how you can select certain parameters directly.

Operating instructions

Translation of the original operating instructions HERMA 500

HERMA GmbH • Labelling Machines Division • 70791 Filderstadt • Germany

Introduction

It is very important that you read these safety instructions before working with the applicator.

For a quick introduction to the device, please see our “Quick guide”.

Please feel free to contact us if you have any questions about your machine or these instructions. Your questions, suggestions and opinions are always welcome.

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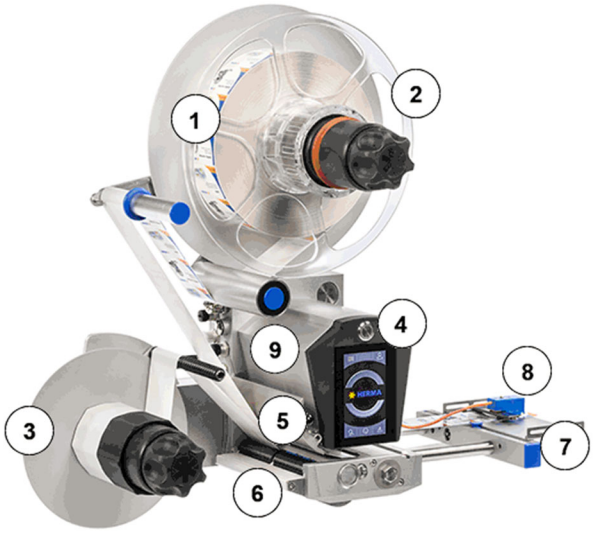
Applicator Overview



1	Unwinder (mechanical unwinder shown here; motorised unwinder also possible)
2	Counterholder (only required for vertical applicators)
3	Rewinder (mechanical rewinder shown here; motorised rewinder also possible)
4	Dispense button above the display (in the rest of these instructions and during Ethernet-based remote control of the applicator, this button is represented by the following icon:)
5	Label web brake
6	Clamping plate on transport roller
7	Dispensing beak (sample configuration)
8	Label sensor (FS03 shown here; forked light barrier (optical or ultrasonic) also possible)
9	Base unit
	A loop module can also be used in certain configurations. No image. See this section.

General information

Applicability

These operating instructions apply to the following machine:

Applicator: HERMA 500 (the “product”)
Manufacturer: HERMA GmbH 70791 Filderstadt Germany – Labelling Machines Division – Phone: +49 (0)711 / 7702 0 Fax: +49 (0)711 / 7702 700 https://www.herma.com E-mail: info@herma.com
Applicator customer support: Phone: +49 (0)711 7702 551 +49 (0)711 7702 777 Fax: +49 (0)711 7702 786 service-maschinen@herma.com service-machines@herma.com https://www.herma.com/machines
Issued on: 2019/02/28

Version:
1.10 EN_GB
Year of manufacture:
See nameplate

Handling of the Documentation

The operating instructions must be available to all personnel working on the machine at all times.

The operator must ensure that personnel who operate or maintain the system have read and understood all safety instructions, precautionary measures, prohibited behaviour and comments contained in these operating instructions.

Guide to Symbols

In these instructions, warnings are indicated by a warning symbol (⚠) and/or signal words. The signal words describe the extent of the danger. Refer to the following section.

Follow the instructions precisely and act with caution to avoid accidents, personal injury, damage to property and life-threatening dangers.

Signal Words

See the explanation in the Safety section.

Structure of the Documentation

The documentation for this machine consists of the following components, which you can find on the corresponding tabs of the documentation folder or, if applicable, in the corresponding electronic directories:

1. Assembly instructions with safety information and notes about paper documentation (if the operating instructions are not delivered in paper form)
2. Operating instructions for the machine (this document). Integrated in the applicator, available separately for download in our service portal: https://www.herma.com/machines.
3. Wiring diagram in paper form, available separately for download in our service portal: https://www.herma.com/machines.
4. Declaration(s) of conformity/incorporation in paper form
5. Replacement parts list for applicator, available separately for download in our service portal: https://www.herma.com/machines.

Safety

Safety Instructions

Click/tap on the header or the + icon for these instructions to read the entire text. Click/tap on − to collapse the text.

Important safety precautions

WARNING

Servicing the machine may require you to enter unprotected areas. Switch off the power supply before maintaining or cleaning the machine. Secure the main switch so that it cannot be switched back on without authorisation. After finishing the work, reattach any protective covers. Otherwise, you could be seriously injured.

Untrained staff are not familiar with the machine and the dangers it may present. The machine may only be operated, maintained and serviced by trained personnel. Additional training must be provided on a regular basis. Serious injuries could occur.

Various movements occur in and on the machine during operation, and could also occur unexpectedly. Do not put your hands into the machine during operation. Serious injuries could occur.

The unwinder and rewinder rotate during operation. During operation, never reach into the area of the unwinder or the backing paper take-up unit. Do not wear your hair down or wear loose clothing. You could get caught in the units and be injured.

If a pneumatic hose should come loose for any reason, it may move and thrash about uncontrollably. Make sure you are always able to switch off the air supply quickly. Otherwise, you could be injured.

During operation, the machine is supplied with electrical voltage. Do not open the housing while the machine is in operation. Otherwise, you could be seriously or even fatally injured.

Caution: risk of cutting injuries

CAUTION

During operation, there is a risk of being cut when the label web is moving. During operation, never reach into the area of the label web. You could be injured.

Wear safety gloves.

General safety instructions

WARNING

If protective equipment is not working and fundamental processes are not observed, the operating staff's safety cannot be ensured. For this reason, observe the following:

Before starting the machine for the first time, ensure that the protective equipment is functioning properly. Check again before each time you start work on the machine.
If any protective equipment is not functioning properly, replace it or repair it immediately.
The technical condition of the protective equipment must be inspected at regular intervals by a qualified person, at least once annually.

If you cannot ensure safe operation of the machine, you must immediately shut down the machine and secure it against future use.
Only use the machine to process suitable products.
Do not bypass any safety switches.
Note the cleaning methods described in these instructions.
Only use original replacement parts and accessories.
Do not modify the machine.

Failure to observe this information could result in serious injuries to the users.

Plug connection

WARNING

When plugging the applicator's plug into a socket or coupling, make sure that the connection is safe and has a compatible design. In particular, make sure that the connection provides safe earthing.

Failure to observe this information could result in serious injuries to the users.

The user bears sole responsibility for injuries or damage caused by improper use that is not in accordance with these operating instructions.

Signal Words: Definitions

DANGER

Identifies a hazard that, if not avoided, will result in death or serious injuries.

WARNING

Identifies a hazard that, if not avoided, could result in death or serious injuries.

CAUTION

Identifies a hazard that, if not avoided, could result in moderate or minor injuries.

NOTICE

Identifies a situation that, if not avoided, could result in damage to the machine.

Indicates information that should be observed.

Safety Symbols

The following symbols are used on the machine and refer to a potential danger. Be particularly careful at these points. Make sure you have read and understood all safety instructions.

	Dangerous electrical voltage
	Risk of being drawn in
	Hot surface

These symbols indicate that the associated instruction must always be followed.

	Disconnect the machine from the power supply.

	Make sure you tie back any long hair (wear a hairnet if necessary) and avoid loose clothing.
	Make sure to always wear safety shoes.
	Make sure you read these instructions before you work on the machine.
	Make sure to wear safety gloves.

Intended Use of the Machine

The HERMA 500 applicator is an electronically controlled device that is used to apply different adhesive labels to a wide variety of products.

You can use the applicator to unwind label reels, detect and dispense labels from the backing paper and then roll up the backing paper.

The machine is intended solely for industrial and/or commercial use. Private use is not permitted.

Do not use for any other purposes!

WARNING

Using this machine for purposes other than the intended purposes could result in hazards. Any purposes other than those described here are not intended and not permitted. Applications that are not intended include but are not limited to:

– Winding materials other than label reels
– Driving materials other than label webs and label reels
– Use for private purposes

We hereby expressly inform you that any unintended use may result in property damage or personal injury.

The user bears sole responsibility for injuries or damage caused by improper use that is not in accordance with these operating instructions.

Machine users

Machine Users

Only staff who can perform the work assigned to them reliably may use the machine. People whose ability to respond is impaired by drugs, alcohol or medication, for example, may not use the machine. They are considered “unauthorised”.

⚠ **Unauthorised persons are not permitted to enter the work area! Unauthorised persons could cause dangerous situations.**

Any specific regulations that apply at the place of operation, for example regarding age, must be taken into account when staff are selected.

Only trained staff may use the machine. The staff must be trained by the manufacturer HERMA GmbH or a HERMA partner. The operator can provide the training if they are sufficiently qualified to do so, e.g. they studied these instructions carefully and have experience with industrial applications and the hazards that can result.

Minimum basic training for all users of the product includes:

- Information on the basic function of the product.
- Fundamental information on safety regulations, both in a general industrial context and in particular the local regulations of the country, district and location in which the product is operated. The operator (see the next section) is responsible for providing information on local regulations.
- General dangers that this type of product (machines) usually presents.
- Specific hazard areas for the specific product being used.
- Explanation of safety instructions attached to the product, e.g. safety symbols on labels.
- Instruction in the use of personal protective equipment and safety measures such as wearing safety shoes, hairnets and form-fitting clothing.

Operator

An operator is any person who operates the product for industrial and/or commercial purposes or allows a third party to do so.

The operator bears legal responsibility for the product with regard to protecting the users or third parties during operation. The operator must issue work instructions to ensure safe operation.

The product is used in the commercial sector. As a result, the operator of the product is legally obligated to comply with workplace health and safety requirements.

The operator must comply with not only the information on workplace health and safety in these instructions, but also the applicable regulations on safety, accident prevention and environmental protection in the product’s area of application. In particular, the following rules apply:

- The operator must become familiar with the applicable workplace health and safety regulations and must perform a risk assessment in order to define the hazards resulting from the specific

working conditions at the installation location. These regulations and information must be implemented as work instructions for operating the product.

- Throughout the product's entire service life, the operator must check whether the work instructions created are in line with the current versions of the regulations, and adjust the work instructions as necessary.

User 1

This user has received basic training. This user may perform activities in normal productive operation, including handling label material and configuring the intended settings.

A password for operating the control software at operating level 1 has been assigned.

This user can view and edit the user parameters defined by the technician.

User 2

Same as for user 1. A password for operating the control software at operating level 2 has been assigned. The user can perform mechanical format settings according to a list.

This user can view all parameters and can edit user parameters.

Technician

Same as for user 2. A password for operating the control software at operating level 3 has been assigned. This user can perform basic mechanical adjustments.

This user can run set-up mode and define user parameters.

Specialist

A specialist has the education, technical training, knowledge of applicable regulations and experience required to perform the work assigned to him or her such as assembly, installation, servicing and transport. A specialist can independently identify dangers.

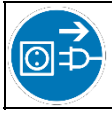
Trained Electrician

A trained electrician has the education, technical training, knowledge of applicable regulations and experience required to perform work on electrical systems and independently identify potential dangers. A trained electrician has had specific training for the working environment in which he or she works, and is familiar with the applicable standards and regulations.

What to Do in an Emergency

	• Turn off the machine using the main switch  and disconnect the mains plug. • Follow your company's or organisation's instructions for handling emergencies.

Measures in Case of Fire

	Turn off the machine using the main switch and disconnect the mains plug. Only use CO2 fire extinguishers or fire extinguishers of class ABC to put out the fire.

Safety equipment

Safety Equipment

The following safety equipment is provided, not including any customer-provided devices, e.g. a special cover for the controller on the base unit.

– Clamping plate guard

– Counterholder

Clamping Plate Guard

Do not modify or remove!

WARNING

This device must not be modified or removed. It must be regularly inspected and maintained.

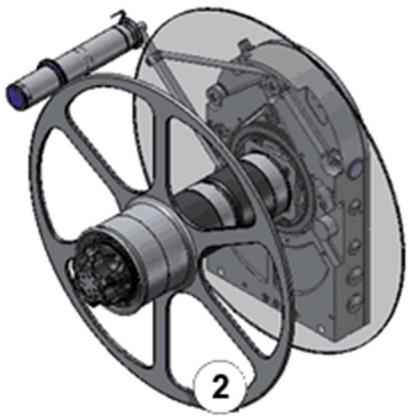
The enclosed plate design prevents users from reaching into the unit or getting caught and pulled in.

Counterholder

Do not modify or remove!

WARNING

Required when operating a vertically installed applicator. This device must not be modified or removed. It must be regularly inspected and maintained.



The counterholder **2** prevents the label reel from falling when the applicator is vertically installed.

Make sure to clamp the label reel and the counterholder in place. See the “Unwinder: Mechanical” section.

Description of the applicator

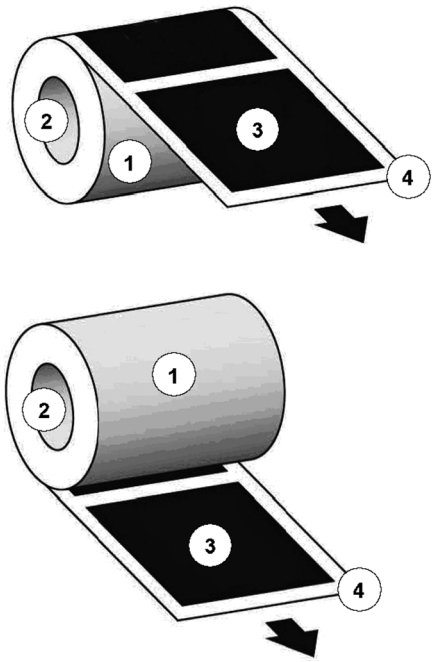
Description of the Applicator

The HERMA 500 applicator is an electronically controlled device that is used to apply different adhesive labels to a wide variety of products.

You can use the applicator to unwind label reels, dispense labels from the backing paper and then roll up the backing paper.

See the “Applicator Overview” section.

Adhesive Labels – Designations



1 Label reel

2 Roll core

3 Label

4 Backing paper

3+4 Label web

The labels can be wound facing either inward or outward.

Function

The applicator intermittently dispenses from the backing paper one label after another at the dispensing plate. The label web is transferred by a mating roller that is driven by a servo motor.

The applicator controller is integrated into the base unit.

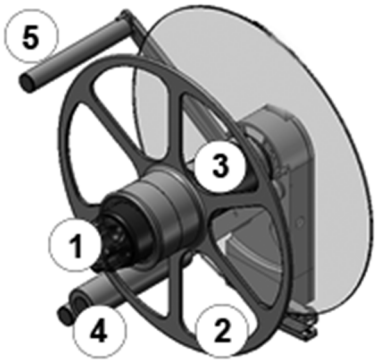
Assemblies

Assemblies – General Information

Most assemblies are available in different variants. For example, the unwinder is available in a standard design (mechanically controlled) or a motorised variant, the backing paper take-up unit can be mechanical or motorised, the sensor can be an FS03 or a forked light barrier, etc.

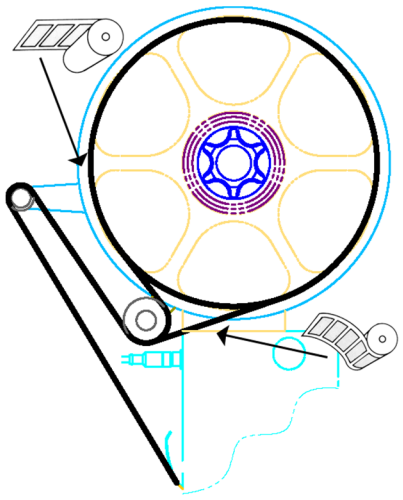
Please see the pictures and illustrations in the various sections for the particular variants used in your applicator. Due to the clear distinctions between the variants, you will not be able to confuse one variant with another.

Unwinder: Mechanical



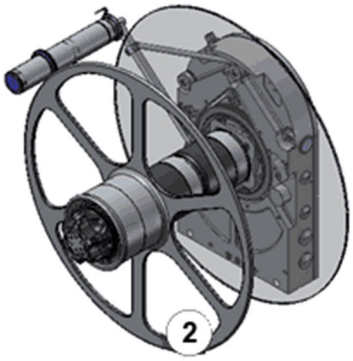
Inserting the Label Web

- Turn the handle **1** all the way to the left (maximum of five steps) to open the clamp.
- Remove the counterholder **2** if necessary (only for vertically installed applicators).
- Place the label reel on the core sleeve **3** and guide the label web around the reversing roller **4** and over the pendulum **5** so that the labels are facing downwards (i.e. are facing toward the pendulum). That way, label reels with both outside winding and inside winding can be used. See the figure below.
- Remount the counterholder **2** if necessary (only for vertically installed applicators).
- Turn the lever **1** to the right (maximum of five steps) until the label reel (possibly with counterholder) is securely clamped.



The “Settings – Retooling the Product” section describes the settings you can make on this unit.

Unwinder: Motorised



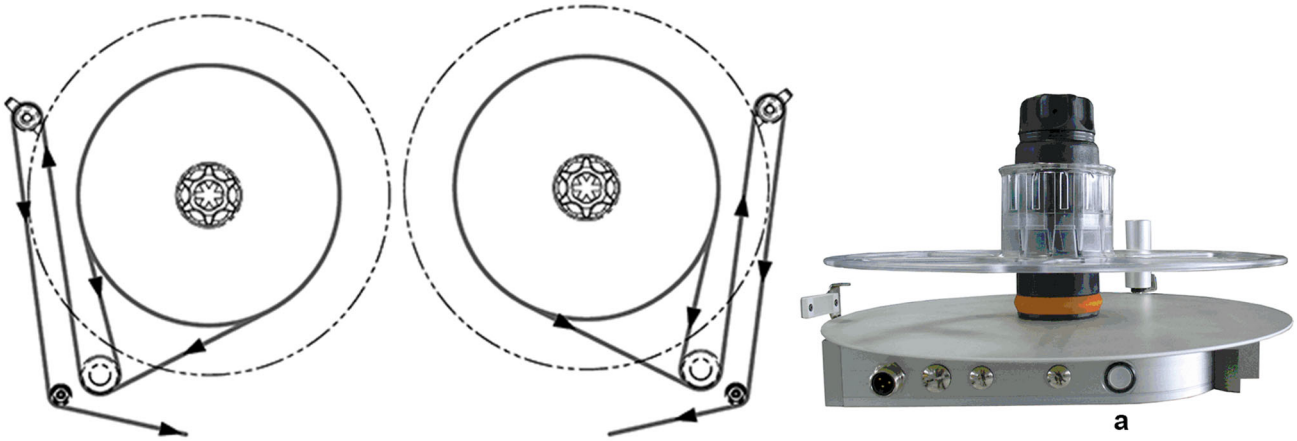
Possible hazard at pendulum

WARNING

If hazard areas arise during operation as a result of the pendulum, you must secure these areas appropriately.

Inserting the Label Web

- Insert the label reel such that the labels reach the dispensing beak in the correct position.
- Mount the counterholder **2** (only for vertically installed applicators).
- Insert the label web according to the diagram below. Switch the unit on and off using the switch / illuminated button **a**.



Function of the illuminated button

The illuminated button **a** has multiple functions:

- Switch the unit on/off
- Change the direction of rotation
- Teach in the angle sensor (see the “Settings – Retooling the Product” section)
- Set to smooth mode (see the “Settings – Retooling the Product” section)
- Indicate errors using flashing codes

See the tables below and the “Settings – Retooling the Product” section.

NOTICE: The unit is READY (switched on) as soon as the voltage is applied and the illuminated button will light up.

Time the button is pressed	**Action/Function**
< 3s	1. Switches on the unit if it is currently switched off. 2. Resets the unit if an error is pending (indicated by flashing code, see below).
> 3s and < 10s	Switch the unit off
> 10s and < 20s	Change the direction of rotation
> 20s	Set to smooth mode (see the “Settings – Retooling the Product” section)

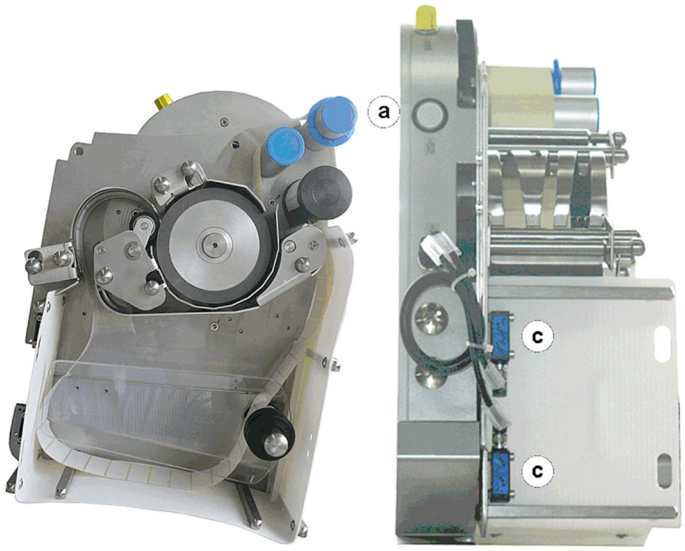
The “Settings – Retooling the Product” section describes the settings you can make on this unit.

Error codes

Error codes, i.e. flashing codes, can be acknowledged and reset by briefly pressing the illuminated button. The following codes are possible:

Flashes	Cause
5x	Measurement error during teach-in of the angle sensor (see “Teaching in the Angle Sensor (Motorised Unwinder)”)
8x	The pendulum remains in its maximum deflection position for too long. The core sleeve may be insufficiently tensioned, the web may be depleted but stuck to the sleeve, or the motor may be faulty.
9x	Voltage in power supply unit too low.
10x	Continuous overload of the drive. The power consumption is too high.
11x	Drive temperature too high.
12x	End of reel reported.
13x	Diameter determination failed (only for CAN connection).

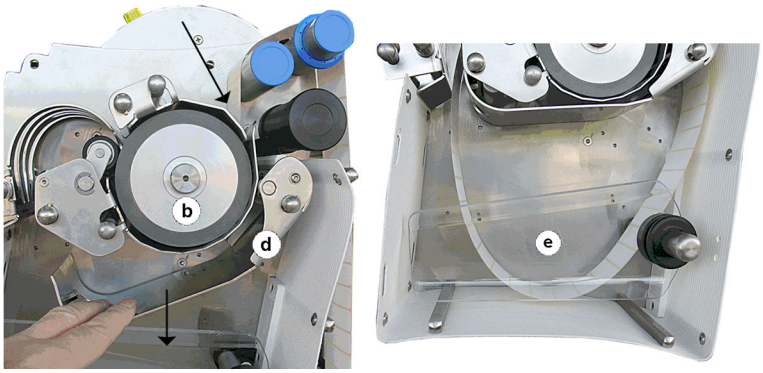
Loop Module: Motorised



Inserting the Label Web

- Insert the label reel such that the labels reach the dispensing beak in the correct position.
- Insert the label web according to the diagrams contained in the “Label Web Threading Diagram” section.
- Switch the unit on and off using the switch / illuminated button **a**.

To thread the label web with motor assistance (recommended), proceed as follows (loop module must be switched off):



- Guide the label web to the drive roller **b**.
- Make sure that the two sensors **c** for loop control are not covered.
- Press the illuminated button **a**. The button will flash rapidly.
- Press the plate **d** downwards, which causes the label web to be pressed against the drive roller and transported to the loop module. Hold the plate down until enough of the label web has been transported that you can guide it out of the unit.
- Close the plate **d** (press up until it locks into place) and press the illuminated button **a** again. The button will remain constantly lit.
- Attach the counterholder **e** if necessary (vertical installation).
- Thread the label web further into the machine.

Function of the illuminated button

The illuminated button **a** has multiple functions:

- Switch the unit on/off
- Indicate errors using flashing codes

See the tables below.

NOTICE: The unit is READY (switched on) as soon as the voltage is applied and the illuminated button will light up.

Caution: rotation

CAUTION

Please note that the drive roller will begin to rotate as soon as the voltage is applied if the loop control sensors are not covered. This rotation will stop automatically after a short time.

Time the button is pressed	Action/Function
< 3s	1. Switches on the unit if it is currently switched off. 2. Resets the unit if an error is pending (indicated by flashing code, see below).
> 3s and < 10s	Switch the unit off

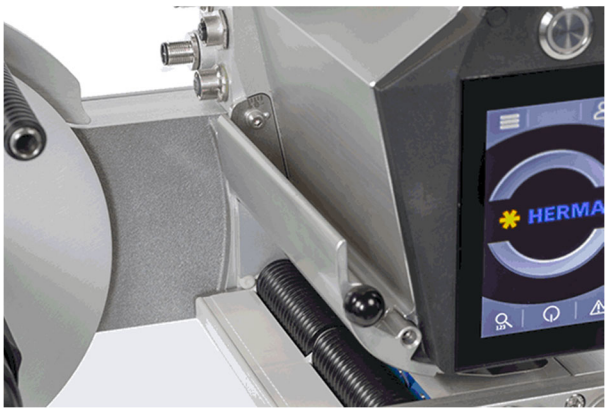
The “Settings – Retooling the Product” section describes the settings you can make on this unit.

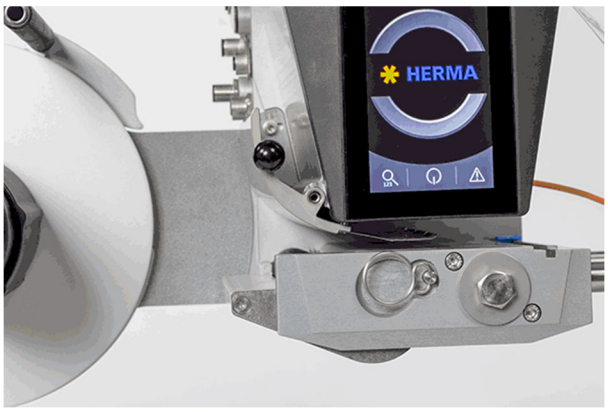
Error codes

Error codes, i.e. flashing codes, can be acknowledged and reset by briefly pressing the illuminated button. The following codes are possible:

Flashes	Cause
8x	Loop formation is taking too long (web break, drive roller is tangled, removal rate is too high).
9x	Voltage in power supply unit too low.
10x	Continuous overload of drive. Power consumption is too high.
11x	Drive temperature too high.

Label Web Brake





Inserting the Label Web

- Grab the brake plate by the black knob and pull it to the side to swing it out of the way.
- Slide the label web under the brake plate.
- Return the brake plate to the original position and press it until it locks into place.

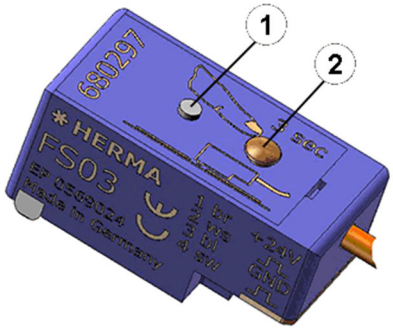
Adjusting the Braking Force

The braking force has been preset at the factory and only needs to be adjusted if needed.

- Loosen the screw in the adjustment plate with printed scale and rotate the plate to the left or right until the label web passes through easily but with noticeable resistance.
- Then retighten the screw.

NOTICE: The brake plate can be completely removed and then reinstalled for cleaning. See the “Cleaning” section.

Label Sensor: FS03



1 – LED

2 – Set button

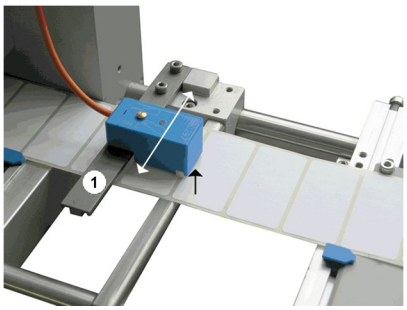
The **material number** of the label sensor with plug is printed on the housing.

The FS03 label sensor is a self-learning unit, suitable for paper labels as well as electrically conductive labels (metalised or aluminium covered). The unit is set such that the sensor is highly active when on the label (1 signal on the label). The LED of the unit indicates the current switching output, i.e., it lights up when on the label and is off when in the gap between the labels.

The FS03 comprises the operating modes “work mode” and “setting mode”, described below.

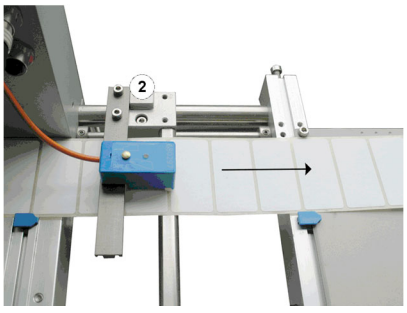
All adjustments, if required, are effected with the help of a single set button. States, results, and signals are indicated via an LED which can light up red or green.

Positioning the Sensor at a Right Angle to the Direction of Label Movement



Gently lift the front of the label sensor and slide it to the desired position on rail **1**.

Positioning the Label



Depending on the application, the label either has to be completely detached (when using suction), or it must remain briefly attached to the backing paper (if it is to be pulled off), or it must protrude only slightly (for labelling products in motion).

You can adjust the position of the label at the dispensing beak by moving the sensing unit and the holder (**2**) in or opposite the direction of label movement (arrow).

This positioning is also called the “stop delay”. For certain configurations, this stop delay can also be adjusted using a potentiometer in the control box or via a parameter in the control program.

Work mode (normal mode)

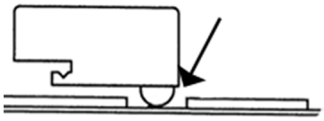
This mode is the mode for normal operation. Any adjustments have been made already (see the “Setting Mode” section).

Setting mode

In this mode the sensor can learn the thickness of the backing paper and can be set to different label material (paper labels or electrically conductive labels (metalised or aluminium covered)). You can also set an offset, i.e., a small shift in the switching point that may be necessary under challenging conditions, e.g. at very high speeds.

The set button must be pressed for different lengths of time to access different functions. If, for example, you want to access the function for changing the label material detected by the sensor, you have to press the button for at least 10 seconds but no more than 15 seconds.

The sensor must be positioned in the gap between the labels.



NOTICE: The length of time that the button has been pressed goes back to 0 after the end of each function. The different functions are indicated by changes in the LED.

NOTE: The following description applies only to the sensor with the material number 680297 (see the printed number on the unit).

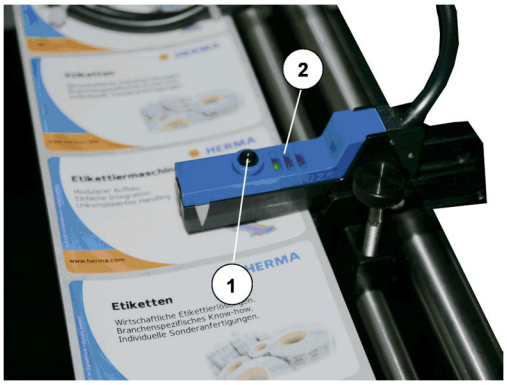
Button press duration // Function triggered/activated

< 2s **LED is off , no function.**
> 2s, < 10s **LED is on, teaching-in function active** (self-learning of backing paper thickness). After the button is released, rapid flashing of the LED signals the start of the teaching-in process. A flash code is emitted at the end of the function: 2 slow flashes (teaching in was successful) 4 slow flashes (teaching in was not successful)

If the teaching was not successful, the procedure must be repeated. Make sure that the sensor is positioned in the gap between the labels and the subsurface is clean (no adhesive residues or the like).
> 10s, < 15s **LED flashes, setting the type of label** (paper or metal). Each time you press the button it changes the label type. The configured label type is indicated by the colour of the LED: green = paper, red = metal The function ends automatically 10 seconds after the last time the button is released.
> 15s, < 20s **LED is off , adjusting the offset.** After the button is released, a sequence of flashes indicates the offset currently configured (the default value for paper labels is 6, for metal labels 10). Then, press the button once briefly = offset + 1 (increase by 1), or press the button once for a longer time = offset - 1. As in the beginning, after every change a sequence of flashes will indicate the value currently set. The function ends automatically 10 seconds after the last time the button is released. The offset only needs to be changed in exceptional cases, generally only at speeds of 120m/min or higher. In such cases the gap between the labels may not be detected reliably and the sensitivity must be adjusted. Decrease the offset for very thin labels of below 50µm • approx. 2000µin and increase it for very thick labels of more than 150µm • approx. 6000µin. Offsets from 1 to 20 can be configured.
> 20s **LED is on , reset to factory settings.** The factory settings are: paper label, offset 6 (offset 10 for metal labels). After the end of the function (when you release the button), the system issues a flashing code (2 slow flashes).

The “Settings – Retooling the Product” section describes the settings you can make on this unit.

Label Sensor: Optoelectronic



1 – Set button

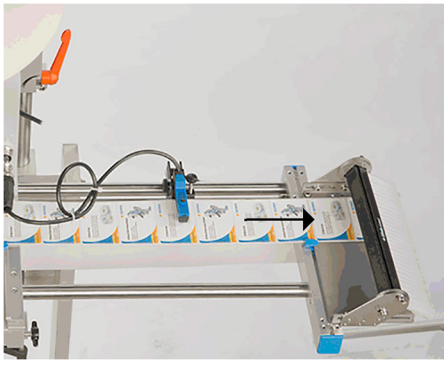
2 – LED

The optoelectronic label sensor of the HERMA 500 unit is used for contact-free detection of non-transparent labels on any backing paper. The unit is set up so that label gaps can be quickly identified with extreme precision. The yellow LED is used for display, which means it lights up when the gap between the labels is detected and goes out when a label is detected.

Positioning the sensor at a right angle to the direction of label movement

- Loosen knurled nut **3**.
- Move the scanning spot of the light barrier **4** (see marking) to the centre of the label while the label web is moving.
- In case of round labels the scanning spot should be positioned over the label centreline.

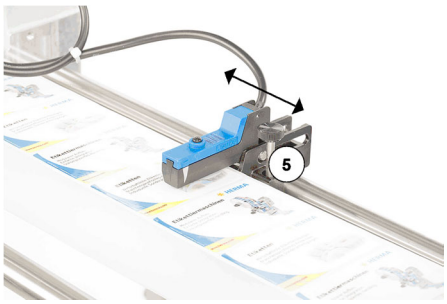
Positioning the label



Depending on the application, the label either has to be completely detached (when using suction), or it must remain briefly attached to the backing paper (if it is to be pulled off), or it must protrude only slightly (for labelling products in motion).

You can adjust the position of the label at the dispensing beak by moving the sensing unit in or opposite the direction of label movement.

This positioning is also called the “stop delay”.

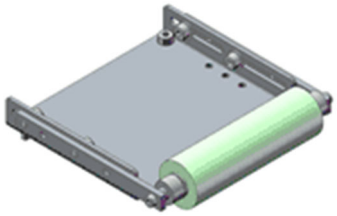


- Loosen the locking screw **5**.
- Move the entire label sensor into the desired position.
- Perform a test run.
- Then tighten the locking screw **5**.

The “Settings – retooling the product” section describes the settings you can change on this unit.

Dispensing Systems

Dispensing beaks

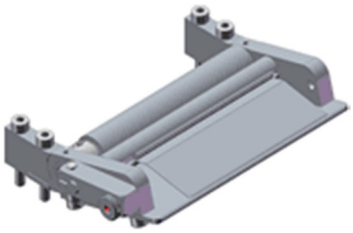


The following dispensing beak designs are available:

- Simple dispensing plate
- Dispensing beak with roller
- Dispensing beak with spring-loaded roller
- Dispensing beak with brush
- 15° angled dispensing beak

NOTICE: For all dispensing systems, make sure that the label web is fed in a straight line (touching the paper guides).
When using a dispensing beak with an application roller, make sure that the distance between the application roller and dispensing plate is less than one label length.

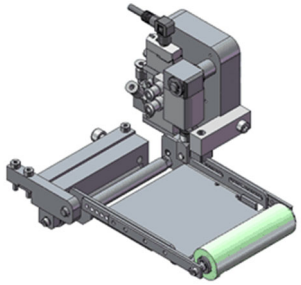
15° angled dispensing beak



Guide the label web under the retaining plate.

Adjust the retaining force so that the label web passes through easily but with noticeable resistance.

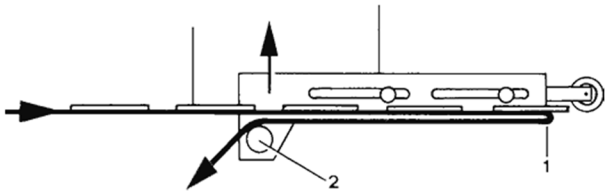
Pivot beak / application unit



NOTICE: Make sure that the distance between the application roller and dispensing plate is less than one label length.

Inserting the Label Web

Insert the label web according to the diagram shown here.

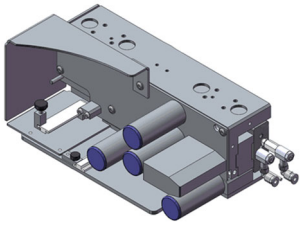


Moving dispensing beak

Risk of crushing!

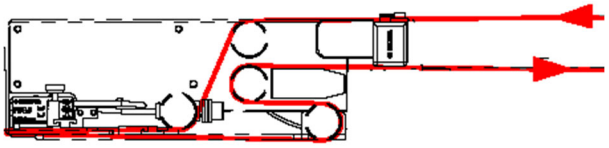
CAUTION

The pneumatic operating pressure must not exceed 5 bar. Risk of crushing!



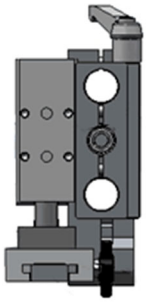
Inserting the label web

Insert the label web according to the diagram shown here.



The Settings – retooling the product section describes the settings you can change on this unit.

Transfer Systems



Depending on the application, one of a range of different telescoping units (linear units) may be installed in your machine. These units require no maintenance.

Observe the following:

Risk of crushing!

CAUTION

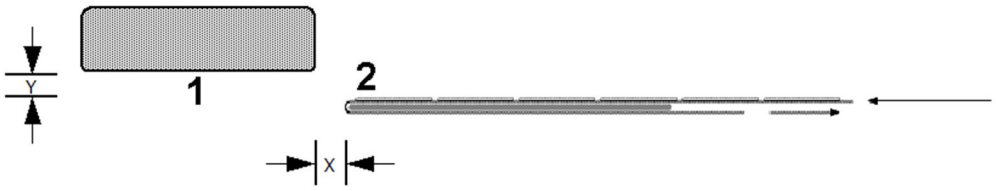
The pneumatic operating pressure must not exceed 5 bar. Risk of crushing!

Positioning the Label on the Suction Plate

The label must be positioned in the centre of the suction plate.

Positioning the Linear Unit

- Adjust the distance (x) between the suction plate **1** and the dispensing beak **2** to approx. 1mm • 0.04".
- Adjust the distance (y) from the suction plate to the label surface to between 1/10mm and 2/10 mm or 0.004" and 0.008” (see figure below).



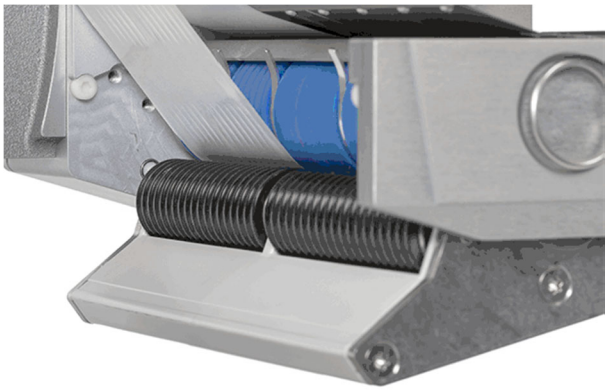
Drive/Transport Roller

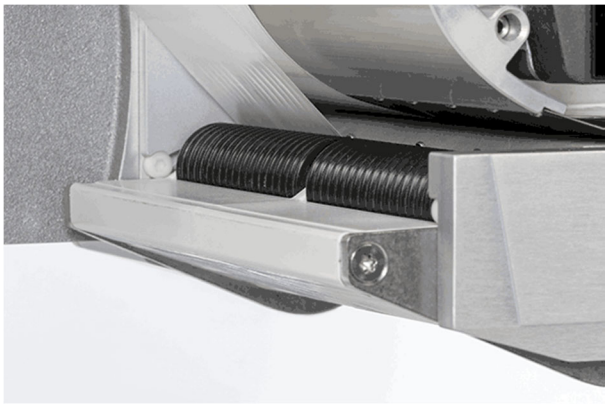
Risk of crushing

WARNING

Do not reach into the feed-in area of the transport roller when the applicator is switched on! Body parts can be crushed or pulled in.

Inserting the Backing Paper

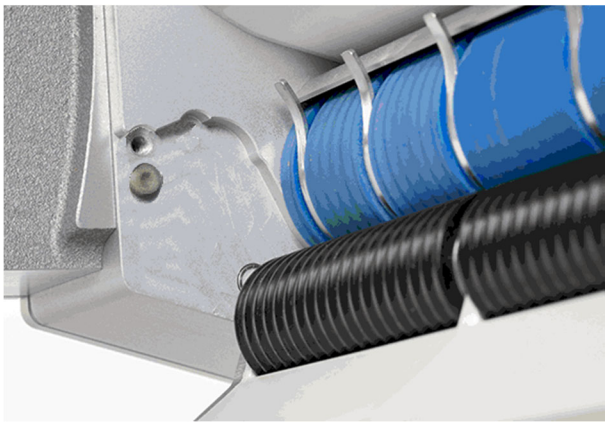




- Open the clamping plate on the blue transport roller by pressing the plate downwards.
- Push hard enough to overcome the resistance until the black application roller is free.
- Slide the backing paper from below between the transport roller and the application roller and place it against the wall of the housing.
- Close the plate by pressing upwards.

Alternatively, you can insert the backing paper with assistance from the motor. To do so, leave the clamping plate closed, guide the backing paper from below into the gap between the transport roller and the application roller and then press the dispense button.

Adjusting the Contact Pressure



- You can change the contact pressure of the clamping plate by choosing different stop positions. To do so, screw the provided screw into the other hole. The lower position provides the higher contact pressure (see figure).
  Be sure to insert the screw in the same position on both ends of the plate.

NOTICE: The clamping plate and the application roller can be easily removed and reinstalled for cleaning. See the "Cleaning" section.

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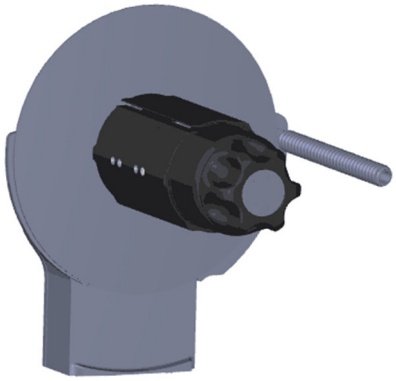
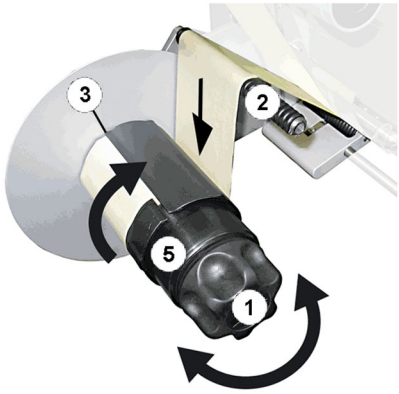
Rewinder: Mechanical



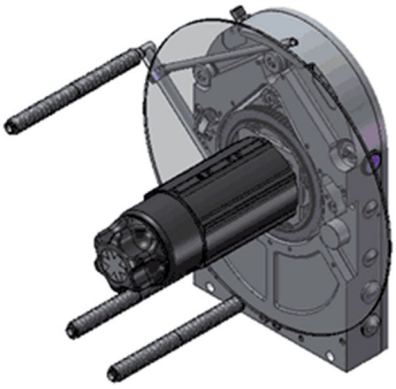
Inserting the Backing Paper



- Turn the handle **1** all the way to the left (maximum of five steps) to open the clamp.
- Place the backing paper over rod **2**.
- Place the backing paper around the take-up roller and guide it into the slot **3**. Insert at least approximately 8cm • 3.2" of the backing paper into the slot.
  Arrow **4** indicates the correct direction.
- Turn the lever **1** all the way to the right (maximum of five steps) in order to clamp the backing paper with the highest possible force. This is required to ensure easy removal of the wound-up backing paper.
- Pull the backing paper taut by turning the take-up roller **5**.

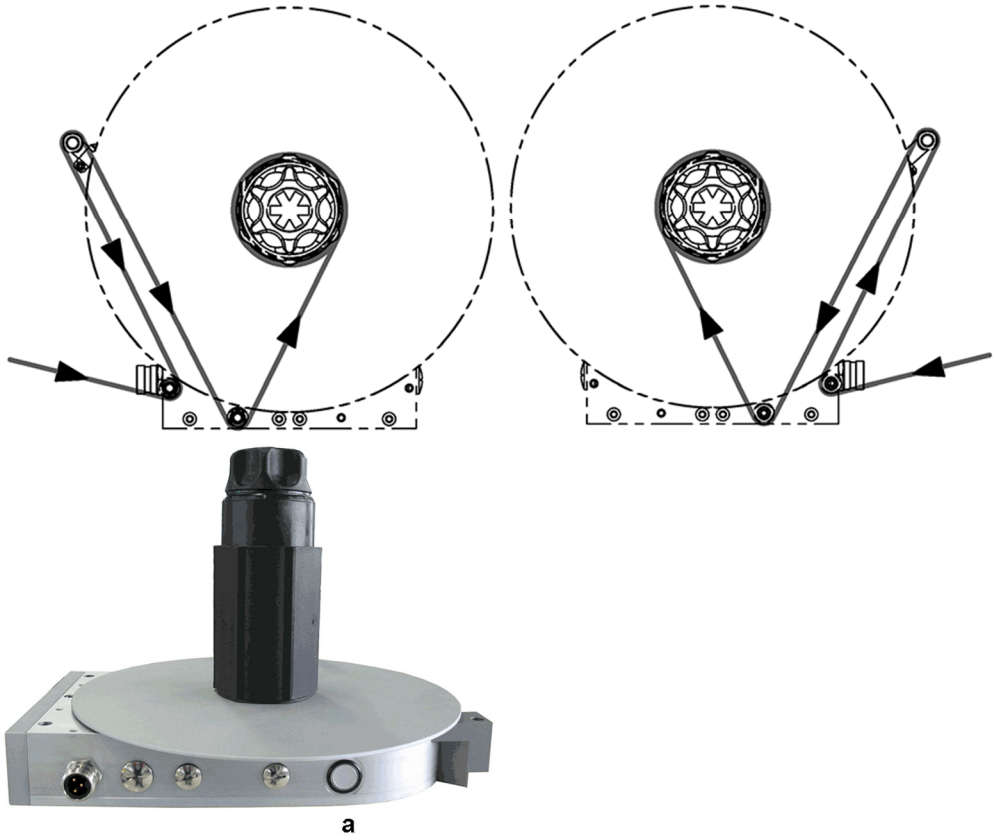
The “Settings – Retooling the Product” section describes the settings you can make on this unit.

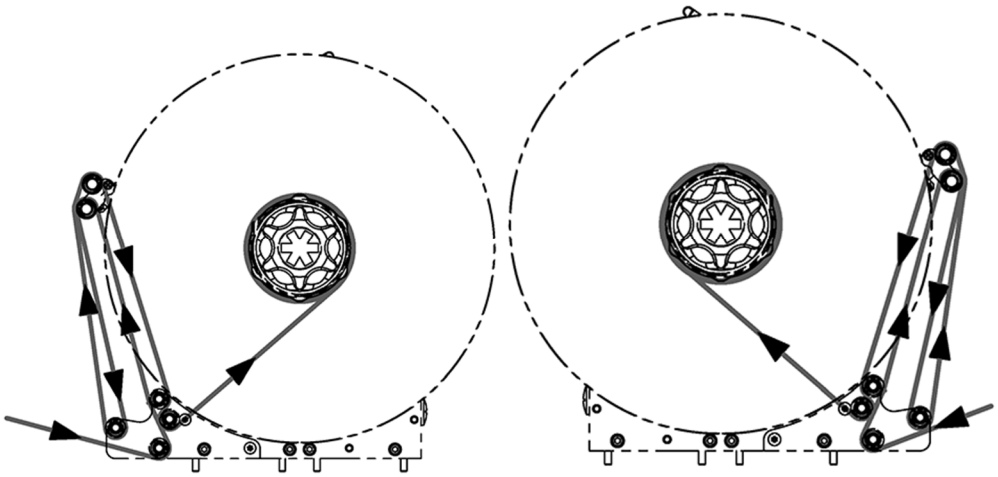
Rewinder: Motorised



Inserting the Label Web

- Insert the label web according to the diagram below.
- Switch the unit on and off using the switch / illuminated button **a**.





Function of the illuminated button

The illuminated button **a** has multiple functions:

- Switch the unit on/off
- Teach in the angle sensor (see the “Settings – Retooling the Product” section)
- Indicate errors using flashing codes

See the tables below

NOTICE: The unit is READY (switched on) as soon as the voltage is applied and the illuminated button will light up.

Caution: rotation

CAUTION

Please note that the rewinder will begin to rotate as soon as the voltage is applied if no backing paper is inserted at this moment. This rotation will stop automatically after a short time.

Time the button is pressed	Action/Function
< 3s	1. Switches on the unit if it is currently switched off. 2. Resets the unit if an error is pending (indicated by flashing code, see below).
> 3s and < 10s	Switch the unit off

The “Settings – Retooling the Product” section describes the settings you can make on this unit.

Error codes

Error codes, i.e. flashing codes, can be acknowledged and reset by briefly pressing the illuminated button. The following codes are possible:

Flashes	Cause
5x	Measurement error during teach-in of the angle sensor (see above)
8x	The pendulum remains in the rest position too long. Possible web break or the rewinder is not winding fast enough.
9x	Voltage in power supply unit too low.
10x	Continuous overload of the drive. The power consumption is too high.
11x	Drive temperature too high.
13x	Diameter determination failed (only for CAN connection).

Technical data

Technical data

The HERMA 500 applicators leave our factory with tested functionality and are ready for operation with default settings.

The following specifications refer to the applicator's drive unit.

Model versions "IO" for I/O applicators, "IE" for industrial Ethernet applicators. (See the type plate of the basic unit.)
Mains voltage Wide range input 100V AC – 240V AC ±10%, 50Hz – 60Hz
Max. power consumption 400W + n * 100W (n = number of motorised winder units)
Leakage current according to EN 60335-1 110V AC: < 0.35mA 150V AC: < 0.5mA 230V AC: < 0.7mA
Fuses in the applicator 2 x T3,15 A type TR5

Recommended external fusing (“HERMA 500” = applicator only, “winder” = HERMA 500 + up to 3 winder units) 220V AC, HERMA 500: 5A slow acting 220V AC, winder: 10A slow acting 110V AC, HERMA 500: 10A slow acting 110V AC, winder: 16A slow acting
Operating temperature range +0°C to +40°C • 32°F to 104°F
Storage and transport temperature -20°C to +80°C • -4°F to 176°F
Maximum permitted installation height with the nominal data 2,500m • 8.200ft ASL
Maximum permitted relative humidity 35% to 85%, non-condensing
Workplace-specific sound pressure level Max. 75dB(A)
Degree of protection of applicator and motorised winder IP 66
Degree of protection of mechanical winding units IP 44

Load-driving capability 250mA (nominal), short circuit proof = maximum load across all outputs
Protection class I; Class 2 peripheral devices may be connected
Label roll diameter Standard: **300mm** • 12" Optional: 400 / 500 / 600mm • 16 / 20 / 23.6"; 600mm only with motorised winder)
Core diameter Standard: **76mm** • 3"
Winding diameter for mechanical rewinder 210mm / 290mm • 8.3 / 11.4"
Winding diameter for motorised rewinder 300mm / 400mm • 12" / 16"
Device widths / Max. label width / Max backing paper width 8 / 80mm / 82mm • 8 / 3.15" / 3.23" 16 / 160mm / 164mm • 16 / 6.3" / 6.45" 24 / 240mm / 246mm • 24 / 9.45" / 9.69" 32 / 320mm / 328mm • 32 / 12.6" / 12.91" (See the type plate of the basic unit.)
Label length 5 – 800mm • 0.2 – 31.5"

Distance between labels 2 – 3mm • 0.08 – 0.11"
Design variants For right-handed and left-handed operation, arranged vertically (V) or horizontally (H). (See the type plate of the basic unit / the component in question.)
Dimensions Customer specific
Transport class 2M2 in accordance with DIN EN (IEC) 60721-3-2.
SlimLine winder system
Max. roll width for roll diameter of 400mm: 320mm • 16": 12.6" 500mm: 200mm • 20": 7.8" 600mm: 160mm • 23.6": 6.3"
Max. unrolling speed for core diameter of 3" : 120m/min • 394ft/min 6" : 150m/min • 492ft/min

You can find further data on the nameplate on the applicator.

The circuit board and the power supply unit are CE compliant.

NOTICE	Under extreme application conditions, the ranges specified here may not exactly correspond to the necessary limits. If overloaded, the applicator may shut down automatically.

When connecting the applicator to an external controller there are connectors available for inputs and outputs. For the assignment of these optional connectors see the following sections.

NOTICE	Unused outputs must be insulated before the unit is started up.

Inputs/Outputs (X10), Standard Signals

This optional connection provides inputs/outputs for external control (e.g. PLC).

Pin	Designation || I/O || Description || Colour || On circuit board 70039292
1	Status || Out || Printer status || Brown || X30.8
2	Gnd || I/O || Earth (all DC voltages) || Blue || X30.2
3	Ready || Out || Applicator ready || White || X30.3
4	End || Out || End of reel || Green || X30.4
5	Dim || Out || Diminishing reel || Pink || X30.5
6	On || In || Applicator ON (1 – active) || Yellow || X30.6
7	Fault || Out || Applicator fault (including web break) || Black || X30.7
8	Stopdelay* || In || 0–10 V stop delay || Grey || X34.3
9	Adc+10V || Out || +10 V DC for analogue inputs || Red || X34.6
10	Speed* || In || 0–10 V speed || Purple || X34.4
11	Startdelay* || In || 0–10 V start delay || Grey-pink || X34.2
12	Ack || In || Reset malfunction || Red-blue || X30.1

** Notice: The pin should be connected to "GND" if not in use.*

Inputs/Outputs (X19), Additional Signals

This optional connection provides inputs/outputs for external control (e.g. PLC).

Pin	Designation || I/O || Description || Colour || On circuit board 70039292
1	+24V || Out || Voltage supply (< 150 mA) || Brown || X39.1
2	Gnd || I/O || Earth (all DC voltages) || Blue || X39.2
3	EncA || Out || User defined || White || X39.3
4	Feed || In || Manual dispensing || Green || X39.4
5	Stop || In || Label sensor (end of transfer) || Pink || X39.5
6	Start || In || Applicator start || Yellow || X39.6
7	Syn1 || In || User defined || Black || X39.7
8	Ack-o || Out || Acknowledgement || Grey || X39.8
9	Lock || In || Lock applicator start (1 – active) || Red || X39.9
10	No_Label || Out || Label missing on backing paper || Purple || X39.10
11	Feeding || Out || Label transfer under way || Grey-pink || X39.11
12	Feed || Out || User defined || Red-blue || X39.12

NOTICE For the pin assignments of the connections, please refer to the separate wiring diagram.

Inputs/Outputs (X9), Industrial Ethernet

This optional connection provides inputs/outputs for industrial Ethernet applicators.

Pin	Designation || I/O || Description || Colour || On circuit board 70039292
1	+24V || – || Voltage supply (<150 mA) || Brown || X39.1
2	Gnd || – || Earth (all DC voltages) || Blue || X39.2
3	EncA || Out || User defined || White || X39.3
4	Ack || In || Acknowledgement || Green || X30.1
5	Stop || I/O || Label sensor (end of transfer) || Pink || X39.5
6	Start || In || Applicator start || Yellow || X39.6
7	Syn1 || In || Syn1 || Black || X39.7
8	Ack_o || Out || Acknowledgement || Grey || X39.8

9	Lock || In || Lock applicator start (1 – active) || Red || X39.9
10	No_Label || Out || Label missing on backing paper || Purple || X39.10
11	Feeding || Out || Label transfer under way || Grey-pink || X39.11
12	Ready || Out || Applicator ready || Red-blue || X39.12

Transport, Installation, Connection, Storage and Disposal

Authorised staff

- Specialist – for activities that do not involve accessing the electrical system
- Trained electrician – for work on the electrical system

NOTICE

Network security must be at a correspondingly high level. The HERMA 500 applicator must be part of a secure network with limited access. If the applicator is connected to the Internet, we recommend strict use of a VPN or HTTPS channel.
The security methods required are determined by the efficiency of the other network elements (firewall, anti-virus protection and protection against the threat of malware).
We recommend changing the preset passwords and repeatedly changing these passwords at regular intervals (e.g. every 90 days). See the "Login" section.
New passwords must be clearly distinct from the old passwords.

Transporting the Applicator

The transport class in accordance with DIN EN (IEC) 60721-3-2 is Class 2M2.

Hazards during transport

WARNING

Improper transport of the machine without due consideration could present dangers for the transporter and third parties. For this reason, observe the following:

Disconnect the power supply before transport of any kind.

Installation/removal may only be performed by trained specialists when the machine is disconnected from the power supply. Before power input, the machine must be properly secured and the protective covers must be put back on.

Always wear safety shoes.

Always make sure that you use suitable transport equipment and observe the machine's centre of gravity; i.e.

secure it to prevent it from falling over/sliding.

Secure the transport routes (clear them and inform third parties). Transport always requires more than one person.

Use an assembly crane/assembly aid.

If this information is not observed, people involved in transport and third parties could be seriously injured.

Observe the following when transporting the machine to its operation site using a forklift or pallet truck:

Hazards when using a forklift

WARNING

Improper use of this tool could present dangers for the transporter and third parties. For this reason, observe the following:

Guide the forks between the machine feet or the palette. Be aware of the machine's centre of gravity.

The forks must extend so they are sticking out on the other side of the machine or the palette.

The means of transport must be approved for the weight of the machine.

Note the safety regulations for transporting and lifting heavy loads.

If this information is not observed, people involved in transport and third parties could be seriously injured.

Remove the label reel when transporting the applicator

CAUTION

Remove the label reel when transporting the applicator.

Installing the Applicator

If you notice any damage caused by transport while removing the machine's packaging, notify your HERMA sales centre immediately.

Use assembly aids

WARNING

Heavy objects could tilt or fall over, and are difficult to move without appropriate aids. For this reason, observe the following:

Use an assembly aid/assembly crane for installation. Secure the machine and its components to prevent them from falling over.

The applicator may not be used in explosive atmospheres.

Properly mount the applicator before power is applied.

Installation/removal may only be performed by trained specialists when the applicator is disconnected from the power supply. Properly mount the applicator and put the protective covers back on before applying power.

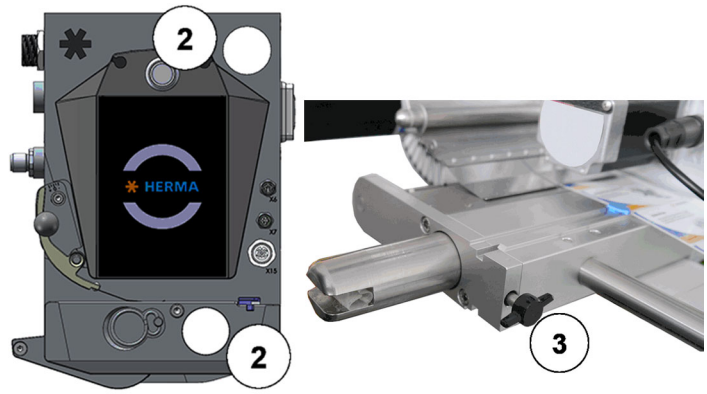
If this information is not observed, people involved in transport and third parties could be seriously injured.

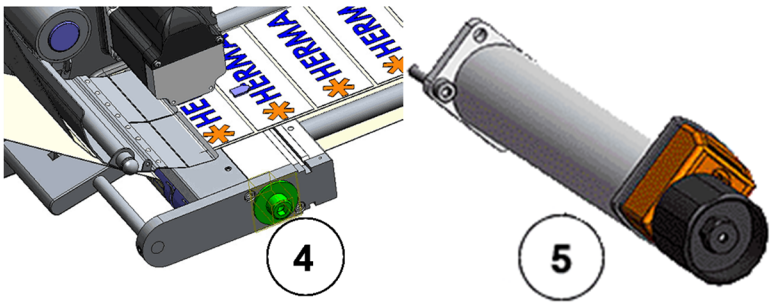
Use only in dry areas

CAUTION

Only use the machine in dry areas.

The machine must be installed in a stable position where it cannot slip.





- Mount the applicator using the two mounting holes for round rods (**2**), Ø 30mm, hole spacing: 182mm.
- Properly secure the mounting system on the rods, e.g. using a clamping screw (**3**), a washer (**4**) or the optional fine-adjustment device (**5**).

Electrical Connection

Electrical hazards

WARNING

Applicators that are not connected properly could result in hazard areas. For this reason, observe the following:

HERMA 500 applicators may only be operated on TN earthing systems.

Connect the applicator to AC voltage only, and please check whether your mains voltage and mains frequency comply with the specifications on the nameplate. See the Technical Data chapter.

Only connect the applicator to a properly installed, earthed mains socket or properly connect it in the control box of the relevant machine.
When plugging the applicator's plug into a socket or coupling, make sure that the connection is safe and has a compatible design. In particular, make sure that the connection provides safe earthing.

The applicator/machine must have a disconnector switch to cut off the power supply in case of malfunction.

Work on electrical components may only be performed by trained electricians and in observance of the relevant safety regulations.

Disconnect the applicator from the mains before working on the parts of the electrical equipment.

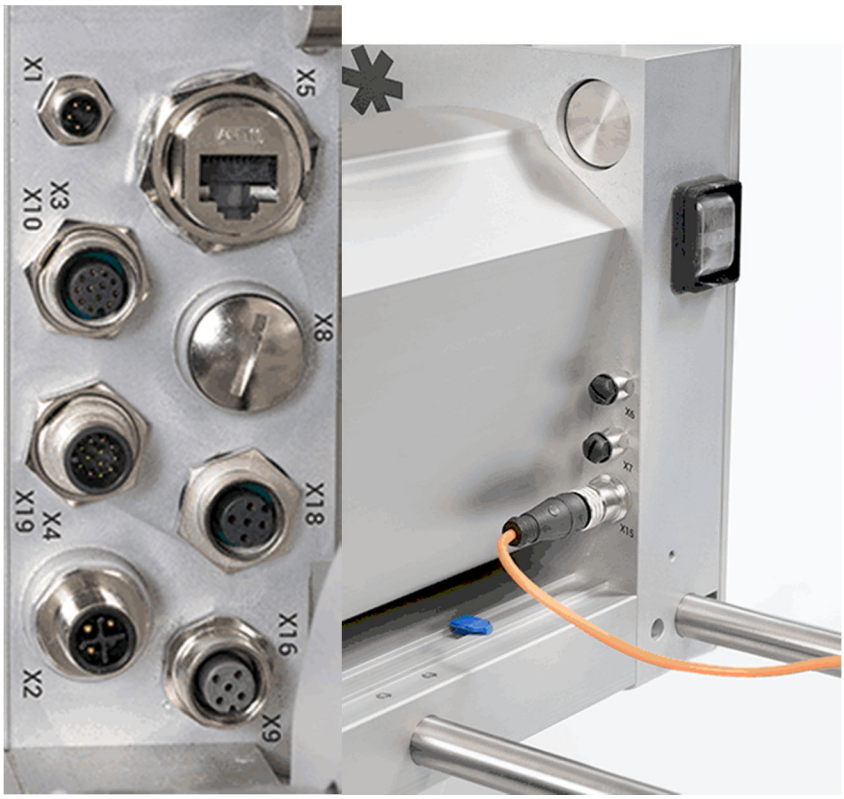
After you disconnect the HERMA 500 applicator from the mains, wait at least five minutes before opening the housing or touching the connection pins. RESIDUAL VOLTAGES!

Properly mount the applicator before power is applied.

Failure to observe this information could result in serious injuries.

Connections

The following connections are provided on the HERMA 500 applicator (depending on the particular configuration; the abbreviation "IO" stands for I/O applicators and "IE" stands for industrial Ethernet applicators):



Connections on the side of the housing		
X1	Master encoder	IO and IE
X3	Industrial Ethernet (fieldbus), in conjunction with X4	IE
X4	Industrial Ethernet (fieldbus), in conjunction with X3	IE
X10	Standard I/O signals	IO
X19	Additional I/O signals	IO
X2	Power IN	IO and IE
X5	Web (Ethernet TCP / IP)	IO and IE
X8	Power OUT (for winder only)	IO and IE
X18	CAN extension	IO and IE
X16	Applicator start	IO and IE
X9	I/O signals (industrial Ethernet)	IE
Connections on the front of the housing		
X6	Transfer system	IO and IE
X7	Printer	IO and IE
X15	Label sensor	IO and IE

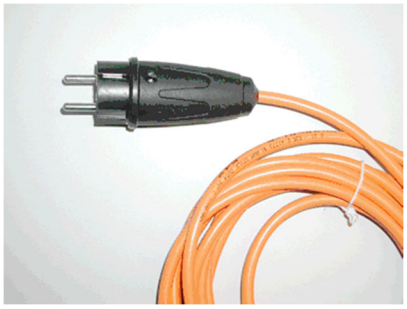
For a **motorised** unwinder, the signals for end of reel and diminishing reel can only be detected simultaneously if the unwinder is connected via CAN bus (X18). These reel signals are detected automatically.

NOTICE

For the pin assignments of the connections, please refer to the Technical Data or the separate wiring diagram.

All plugs are secured with union nuts. Do not tilt the union nuts when screwing them onto the socket because this could damage the thread or render it unusable. Screw the plugs in completely in order to ensure secure, long-term contact.

See the Technical Data chapter for the pin assignments of connections X10 and X19 (if available).



Representative photo

Plug the mains plug into a mains socket.

Connecting the Compressed Air Supply

Where applicable:

Check the compressed air

CAUTION

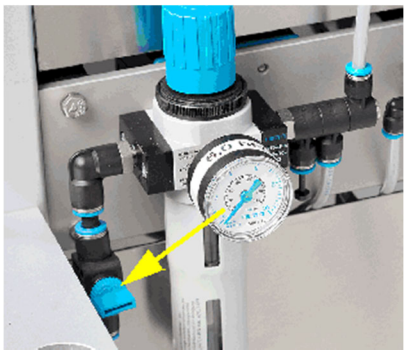
A faulty pneumatic connection could cause damage to the machine and result in hazards.

Connect the machine to a compressed air supply with up to 6 bar of operating pressure.

Disconnect the compressed air supply before setting up the machine or performing maintenance work (e.g. cleaning).

Failure to comply with these instructions could result in injuries.

- Connect the applicator to the compressed air supply.
- If applicable, activate the pneumatic system of the machine by setting the valve accordingly.



Representative photo

Storage

Observe the following to ensure that applicators that will not be in use for a longer period of time will still function properly:

- The storage location must be dry and clean.
- Do not expose the applicator to extreme cold or heat.
- Make sure the applicator is positioned on an even surface to prevent warping or twisting.
- Clean the applicator.
- Cover the applicator completely to prevent dirt or dust from getting into it.

Start-up After Storage

Perform the following activities when starting up the applicator after it has been stored for a long period of time:

- Check all safety and protective equipment and replace any damaged components.
- Clean and inspect the applicator according to the maintenance schedule.

Disposal

- Observe local regulations regarding waste prevention and proper recycling and/or disposal.

- In particular, ensure that substances that could contaminate groundwater, e.g. greases, oils, coolants and cleaning fluids that contain solvents, do not get into the soil or sewer system. These substances must be collected, stored, transported and disposed of in suitable containers.
- Dispose of the materials used in an appropriate, environmentally friendly manner.

For example, you can separate them into the following substance groups:

- Metals
- Electronic waste (PCBs, cables, etc.)
- Plastics (according to the labelling)
- Operating supplies and consumables such as oils, greases and coolants

Start-up – General Information

Authorised staff

- User 1 – for turning on the machine and starting production
- User 2 – for loading the appropriate format

Remove products

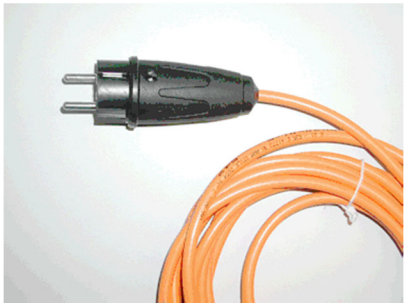
CAUTION

If products are in the machine when it is turned on, the products could move in an uncontrolled manner.
When starting the machine up, make sure there are no products in the system.

If this information is not observed, the user and third parties could be injured by uncontrolled product handling.

Activation and Login

Plug the mains plug into a mains socket.



Representative photo

Flip the switch on the applicator to **I**.

The applicator is now ready for operation.

This switch is a disconnector switch that isolates the applicator from the mains in case of a malfunction.

Tap the power button on the applicator display. The colour switches from white to blue.

Manually dispense two to three labels using the dispense button to check that the unit is working correctly.

If necessary, log in using the password required for your particular task or application. See the "Login" section.

Label Web Threading Diagram

Switch to standby

WARNING

When the applicator is in ready mode, the transport roller rotates. This poses a danger of pulling in clothing or body parts. Switch the applicator to standby mode before replacing a roller.

Failure to observe this information could result in serious injuries.

Threading Diagrams

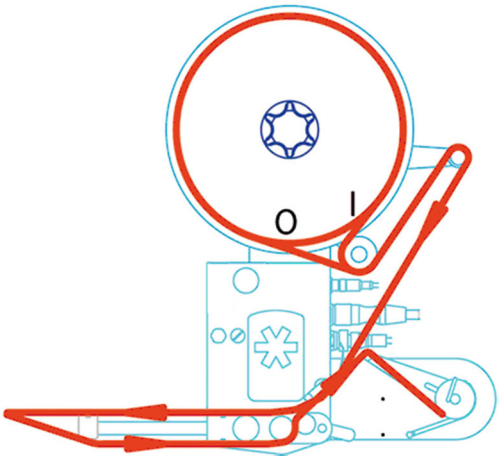
The following example diagrams show how to insert the label web for the most common standard applicator. Observe the information in the sections corresponding to the various assemblies.

For different applicator configurations, a separate threading diagram is included and may also be attached to the applicator.

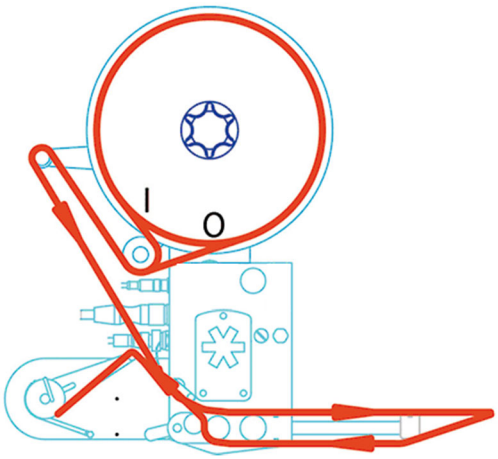
NOTICE

After inserting a new label web, make sure to close all the clamps. This includes clamps on the unwinder and rewinder, the clamping plate and the label web brake.

- Make sure that the label web is positioned correctly.
- If the FS03 label sensor is being used and was previously removed, reposition it.
- Move all paper guides back so they are touching the web.
- Manually dispense two to three labels using the dispense button to check that the unit is working correctly.



Right-hand orientation

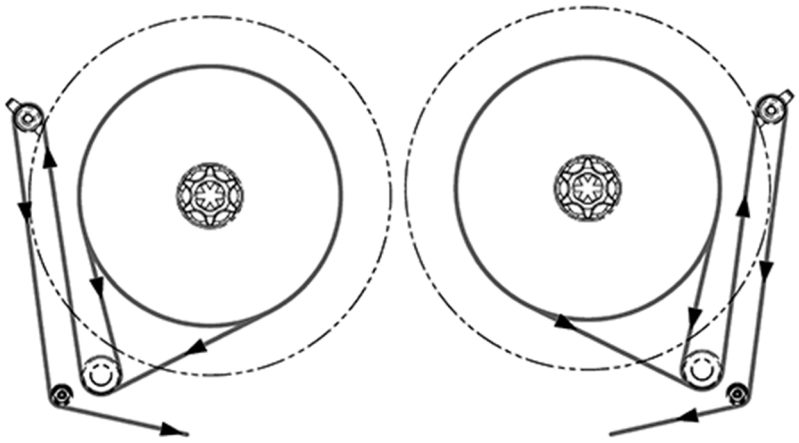


Left-hand orientation

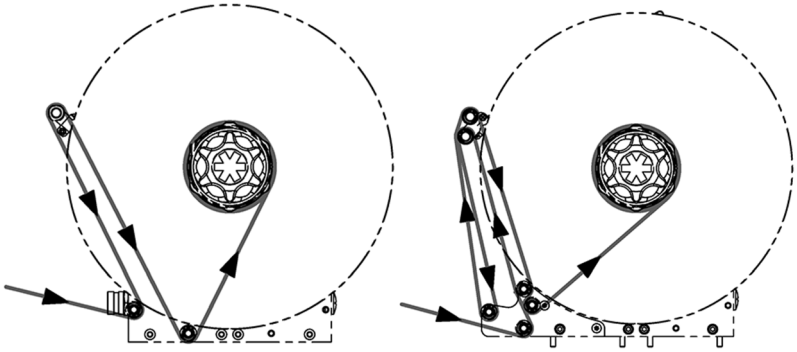
Winder System

Beyond these standard configurations, further distinctions are made between versions that employ a winder system (motorised unwinder and backing paper take-up unit, with or without loop module). These configurations, including the label path, are shown in the figures below.

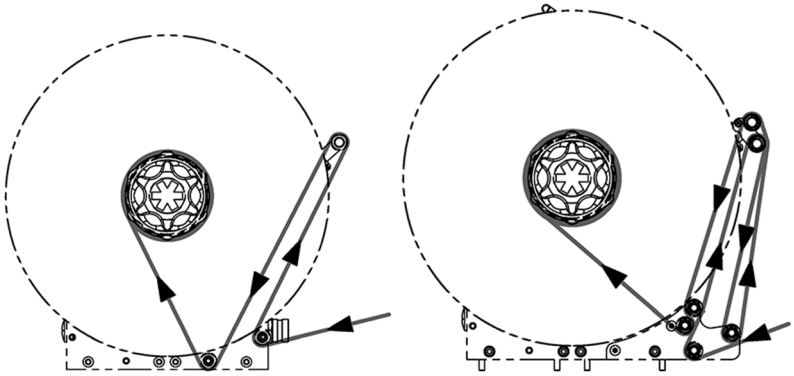
Left-hand/right-hand unwinder version



Left-hand unwinder version with single/double pendulum

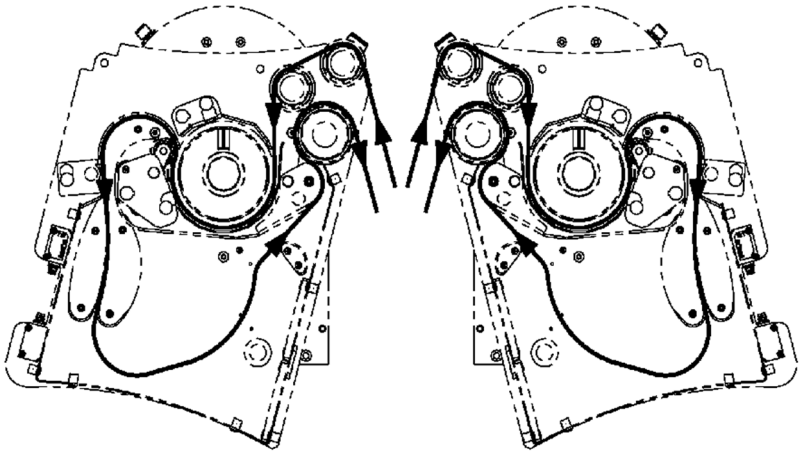


Right-hand unwinder version with single/double pendulum

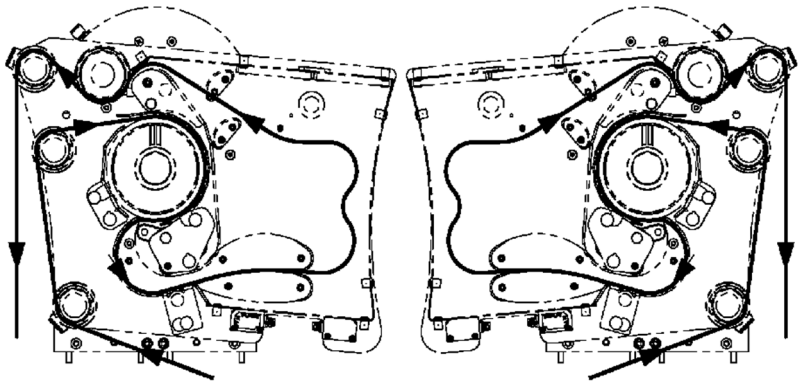


Left-hand/right-hand loop module version

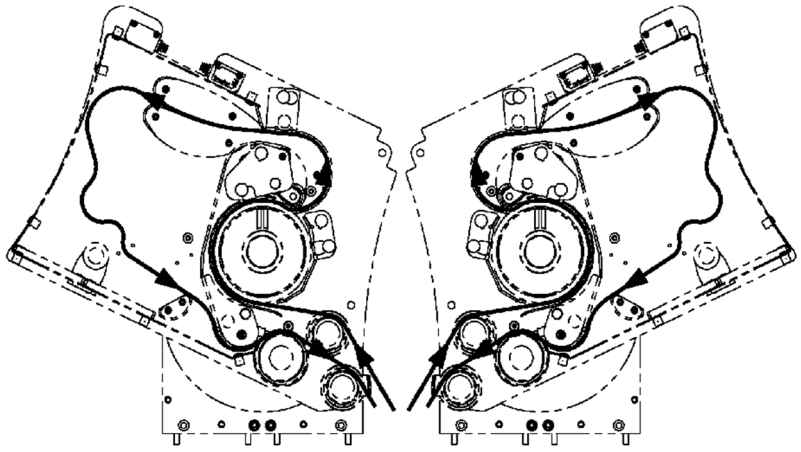
Type 4



Type 5



Type 7



Shutting down

Shutting Down – General Information

Authorised Staff

User 1 – for stopping production and turning off the machine

Tap the on/off button for operation mode on the applicator display. The colour switches from blue to white.

Flip the switch on the applicator to **0**.

The applicator is now switched off.

Operation Using the Control Program

A touchscreen is integrated in the HERMA 500. Scroll through the screen vertically using a swiping motion (similar to the swiping motion on smartphones) and open a function or parameter by lightly tapping on the icon or area. If there is no immediate response, tap again using either more or less pressure.

You can find information about the control program's structure and how to operate it, especially how to parameterise your applicator, in the sections below.

Start Screen (Operation Mode Off)

The following initial start screen is displayed after the applicator is switched on and as long as operation mode remains switched off:

1	Menu button, display all operating menus.

2	User/login menu, also displays the current password level.
3	Direct selection / quick access to a parameter using its number.
4	Switch on operation mode.
5	Show past messages (message history)

Start Screen (Operation Mode On)

Once operation is switched on using button **4**, the screen looks as follows:

8	Start screen parameters for quick access to frequently used parameters (favourites). Set using parameters 51 through 54 in the “Extended settings” menu.
9	Parameter display (here: applicator speed) with the value of the currently selected parameter (here: 44.8m/min).

Login

Tap this button to log into the control program using the correct password for the job/application.

The current password level is displayed once you have logged in (here: level 3).

Note: Passwords for the HERMA 500 applicator consist only of digits, like a PIN.

Password levels

Passwords are assigned to various levels. The following levels are provided:

1 (User 1)	Only the user parameters assigned by the technician are visible and can be edited. The default password is “1111”. The technician can change the password.
2 (User 2)	All parameters are visible, but only the user parameters can be edited. The default password is “2222”. The technician can change the password.
3 (Technician)	Can execute workflow-based set-up mode. See the “Extended settings” section. Can assign new passwords for users 1, 2 and 3. Can enable functions. Can edit all enabled functions. Can define the user parameters. The default password is “3333”. The technician can change the password.
4 (Service Customer)	User level for the customer’s service technician. The default password is “4444”.

Passwords beyond level 4 are intended only for HERMA.

NOTICE

We recommend changing the preset passwords and repeatedly changing these passwords at regular intervals (e.g. every 90 days). See the “Extended settings” section.

New passwords must be clearly distinct from the old passwords.

Menu Navigation and Structure

The following menus appear after you tap the menu button:

Help Open quick overview, operating instructions, FAQs.
Format Create and access formats.

Settings Make general, mostly one-time settings for the control program, e.g. the display language.
Product Make product-specific settings, e.g. start delay, master encoder, etc.
Label Make label-specific settings, e.g. stop delay, applicator speed, etc.
Application Make application-specific settings, e.g. selecting the application type, parameterising dispensing systems, etc.
Printer Set parameters for the printer and printing mode.
Winder Set parameters for the winder system (motorised unwinder, motorised rewinder, motorised loop module).
Extended settings Make special settings for the control program, e.g. start screen parameters (see also “Operation Using the Control Program”), parameters for CAN, OPC, fieldbus, etc.

Imprint

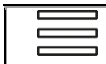
Access device-specific information, e.g. the device ID, software versions, etc.

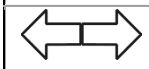
See the section of the same name in “Operating Menus”.

Icons

The following table contains all the icons/symbols used on the applicator display.

	Help menu
	Format menu
	Settings
	Product menu
	Labels menu
	Application menu
	Printer
	Printer on/off
	Winder
	Unwinder
	Rewinder
	Extended settings
	Imprint
	Start screen

	Open menu
	User menu
	Indicates authorisation (password level) of current user
	Direct selection
	Switch operation mode on/off
	Remote activation/deactivation
	Show past messages (message history)
	Product speed
	Applicator speed
	Loop module
	Batch
	Batch counter
	Remainder counter
	Performance
	Start delay
	Stop delay
	Confirm
	Cancel
	Backspace (delete character to the left)
	Radio menu (select values)
	Keyboard (enter values)

	Assign user parameters
	Positive/negative (toggle)
	Enter values: plus (increase value) / minus (decrease value) / point (decimal separator)
	Go back one step/screen
	Open information
	Set-up mode
	User/password
	Enable functions
	Firmware update (only via Ethernet)
	Device backup and restore (only via Ethernet)
	Industrial Ethernet menu (fieldbus menu)
OPC UA	OPC menu
	Simulation
	Status display
CAN	CAN menu
I/O	I/O test menu
IP	IP menu (Ethernet settings)
	Internal access
	Additional settings
	Screen configuration (define start screen fields / favourites)
	Alarm history

	Representation of the dispense button above the display in these instructions and during  Ethernet-based remote operation of the applicator

Additional icons are listed below within the descriptions of their corresponding menus.

Start Screen Parameters for Quick Access (Favourites)

Parameters 51 through 54 in the “Extended settings” menu let you define four start screen parameters (**8**) for quick access to frequently used parameters (favourites).

In this example, those are parameters 100, 200, 230 and 235.

Tap a parameter number to go directly to the parameter.

Direct Parameter Access 

You can access the parameters for the control program by browsing through the individual menus.

If you already know the number of the parameter, you can access it quickly by pressing the direct selection button on the start screen and entering the number.

Please note that you need the necessary authorisation to open the selected parameter.

Operation Mode On/Off 

Tap this button to switch the applicator's operation mode on or off. Different start screens are displayed depending on the applicator's status. See also "Operation Using the Control Program".

Operation mode must be switched on for production to take place. Operation mode must also be on for you to access the favourites and view or change their values.

Message History 

You can open a list of past messages on the display using icon **12**. This provides an overview of all events, including those that occurred while you were away.


Störung
SM 186
Check level of label sensor
Info
Label sensor possibly misadjusted. Imbalance of gap width to label length. Change from paper label to metallized label.
123

12


SM 107 Etikettenband aufgebraucht
26.07.2016 09:47
SM 107 Etikettenband aufgebraucht
26.07.2016 08:47
SM 107 Etikettenband aufgebraucht
26.07.2016 05:47
123

Opening and Editing Parameters

When you select a menu from the menu list, a list of available parameters is displayed (the “Settings” menu in this example):

Tap a number or name to change the value of this parameter.

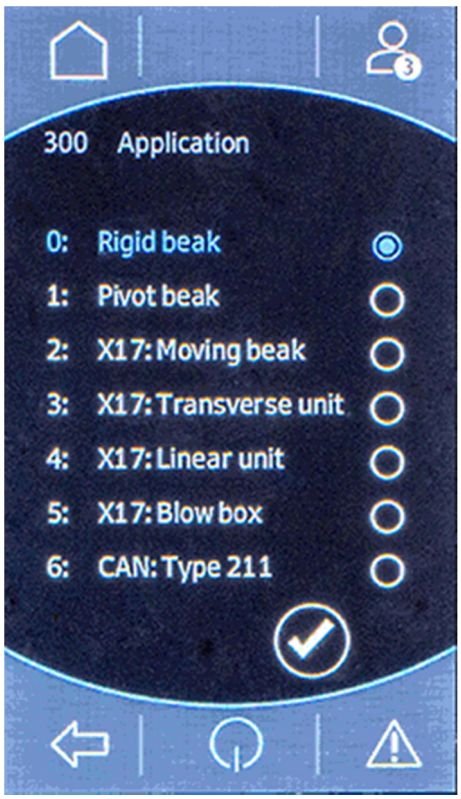
There are two basic types of parameter: *selection parameters*, which have values that are selected from a list, and *input parameters*, which have a value that can be freely edited.

The following icons are displayed after a parameter is selected:

	Selection parameter. Tap this icon and choose the parameter value from a list.
	Input parameter. Tap this icon and edit the value to set the parameter value.
	Tap this icon to get more information about the parameter.

	Tap this icon (displayed for password level 3 and higher) to specify whether this parameter is displayed for users.

Selection Parameters



Tap a value in the list to select it (Rigid Beak in this example) and then confirm the selection with .

Input Parameters

Enter the desired value directly using the virtual keyboard or use the + and − buttons to increase (**1**) or decrease (**2**) it.

Values **3** and **4** indicate the permitted range (from ... to) for this parameter.

The following buttons are also available:

	Change the sign
	Enter a decimal separator
	Delete the character to the left of the cursor (backspace)
	Confirm the entry

See the “Start Screen Parameters for Quick Access” section to learn how to save frequently used parameters (as favourites) for quick access on the start screen.

Operating menus

Operating Menu

The operating menu is divided into several submenus where you can access the various parameters. You will find information on these menus in the sections below.

For an overview of the menus, see “Menu Navigation and Structure”.

NOTICE: You can see an explanation for a parameter by tapping on the parameter text and then on the ⓘ icon on the display.
For parameters that require additional explanation, these explanations can be found in the corresponding sections of the manual.

Help

Open the “Quick guide”, the operating instructions and FAQs.

You will find the following items in this menu:

Your Safety	Detailed information regarding safety. Make sure you follow these instructions!
Quick Guide	A quick overview of set-up mode, important points for operating the applicator, information about threading the label web and about menu navigation and a list of frequently asked questions (FAQs).
Operating Instructions	The complete operating instructions for this applicator (which you are currently reading). An enhanced operating manual with various graphics and additional information can be found in the service portal at https://www.herma.com/machines.

Format

Create and access formats.

A format is a set of parameters for processing a specific product. Saving and reusing formats allows you to set all necessary parameters and their values with a single click.

You can create up to 99 formats.

This menu provides a list of the available formats, which you can select and load to the primary memory by tapping on them. You can also save new formats (the currently configured values) in new or existing storage locations. If you also want to change the name, you have to operate the applicator from an external system with a keyboard. You can do so by establishing an Ethernet connection from an external terminal, for example a PC. See also the instructions on Ethernet connections in the Extended settings menu.

Format List 

This list lets you load or delete a previously saved format. Tap a name and then tap one of the following buttons.

	Load the format to the primary memory, thus activating it.
	Delete the format. A security prompt asks you to confirm your choice.

Save Format 

Save the currently configured values in the currently selected format.

Save Format As 

Save the currently configured values in a different storage location. An external Ethernet connection allows you to change the format name.

Settings 

General, mostly one-time settings for the control program, e.g. the display language or the display alignment.

NOTICE: You can see an explanation for a parameter by tapping on the parameter text and then on the ⓘ icon on the display.
For parameters that require additional explanation, these explanations can be found in the corresponding sections of the manual.

Product 

Make product-specific settings, e.g. start delay, master encoder, etc.

NOTICE: You can see an explanation for a parameter by tapping on the parameter text and then on the ⓘ icon on the display.
For parameters that require additional explanation, these explanations can be found in the corresponding sections of the manual.

Label 

Make label-specific settings, e.g. stop delay, applicator speed, etc.

NOTICE: You can see an explanation for a parameter by tapping on the parameter text and then on the ⓘ icon on the display.
For parameters that require additional explanation, these explanations can be found in the corresponding sections of the manual.

Application 

Make application-specific settings, e.g. selecting the application type and defining the corresponding parameters.

NOTICE: You can see an explanation for a parameter by tapping on the parameter text and then on the ⓘ icon on the display.
For parameters that require additional explanation, these explanations can be found in the corresponding sections of the manual.

Printer 

Set parameters for the printer and printing mode.

NOTICE: You can see an explanation for a parameter by tapping on the parameter text and then on the ⓘ icon on the display.
For parameters that require additional explanation, these explanations can be found in the corresponding sections of the manual.

Winder 

Set parameters for the winder system (motorised unwinder, motorised rewinder, motorised loop module).

NOTICE: You can see an explanation for a parameter by tapping on the parameter text and then on the ⓘ icon on the display.
For parameters that require additional explanation, these explanations can be found in the corresponding sections of the manual.

Unwinder 

Function: hold and unwind the label reel, feed the label web to the dispensing beak and transport roller.

Rewinder 

Function: rewind the backing paper after the labels are dispensed and applied.

Extended Settings 

This menu allows you to make special settings for the control program, e.g. defining start screen parameters (favourites, see also "Start Screen Parameters for Quick Access"), enabling functions, defining user passwords, editing parameters for CAN, OPC, fieldbus, etc.

It contains the following submenus:

Set-Up Mode 

This mode leads you through all the parameters that are necessary to operate the HERMA 500. This ensures that the parameters are selected according to your requirements.

Starting with general prompts about language, display alignment and others, the system then leads you through all other necessary parameters according to the information you entered and allows you to make adjustments.

You have the following options:

	Tap the confirm button if you changed the setting for a parameter and want to save this change.
	Tap this button if you want to go to the next parameter without changing the parameter currently displayed.
	Tap this button if you want to return to the previous parameter.

Simulation 

Password level 4 and higher.

Status Display 

Password level 4 and higher.

I/O Test I/O

Password level 4 and higher.

Enable Functions

In this menu you can enable functions that were added later, e.g. the maximum applicator speed, by entering a code.

Firmware Update

This submenu appears when you call up the user interface of the applicator via an Ethernet connection. For more information, see the Ethernet settings.

First, download the latest firmware version for the HERMA 500 applicators from the service portal https://www.herma.com/machines onto your PC or laptop. The menu items for software/firmware can be found under the “Start-up” menu item. The menu items are named “Register HERMA 500 basic unit” or “Your HERMA 500 basic units”.

Make sure that you are logged in on the applicator or in your browser with sufficient authorisations.
Call up this menu item in your browser, then follow the instructions on the screen.
This includes selecting the ZIP file that you saved earlier, transferring the data to the applicator, and confirming that you want to update the firmware.
After the update is finished you will be taken back to the start screen.

You can see the current software version in use in the Imprint menu.

Device backup and restore

This submenu appears when you call up the user interface of the applicator via an Ethernet connection. For more information, see the Ethernet settings.

Once you call up this menu item, you can back up the active software in the applicator as a ZIP file and save it on the connected PC or laptop.

In this menu item you also have the option of restoring the software to a previously saved backup version. The procedure is the same as for a firmware update (see above).

Start Screen

In this menu you can set the parameters for defining favourites on the start screen.

Access

This menu lets you define whether certain parameters or functions can be accessed via the integrated display, via an external display or with no restrictions at all.

CAN Settings CAN

Various settings for the CAN bus connection.

Ethernet Settings IP

Various settings for the Ethernet connection.
Standard setting: The applicator’s IP address is 192.168.3.11 and the standard port is 5555.

The connection to a web front end will work with all standard web browsers. The connection is optimised for Chrome browsers.
To connect, enter the address http://192.168.3.11:5555 into your browser’s address bar.

Note: If you cannot establish a connection, delete your browser's cache.

If necessary, you can assign your own unique IP address and a unique port.

As a rule, in order to open a web front end, the display device (PC, laptop, industrial controller, etc.) only needs to be in the same IP address range. With the standard IP address, for example, that would be 192.168.3.XXX (where XXX is a number between 0 and 255).

The Ethernet cable to be used must have an RJ45 plug on the applicator side.

OPC UA Settings OPC UA

Various settings for the Ethernet connection (OPC UA).

User/Password

This menu lets you define the PINs/passwords for the users, the technician and the customer's service technician (password level 3 or 4 required).

Fieldbus Settings

Various settings for the fieldbus connection (industrial Ethernet).

Other Settings ● ● ●

Various special settings.

Alarm History

Password level 4 and higher. A list of the approx. 100 most recent messages on the applicator.

Imprint

This menu lets you access device-specific information, e.g. the device ID, software versions, etc.

Further information about the manufacturer of the HERMA 500 can be found in the "Applicability" section.

Settings – retooling the product

Settings – Retooling the Product

Authorised Staff

- User 2 – for mechanical format adjustments and loading existing formats
- Technician – for creating new formats

Switch off the applicator

CAUTION

Accessing the machine for setting and retooling purposes could cause unexpected actions.

Turn off the machine properly before performing mechanical modifications and deactivate the compressed air supply.

Make sure to empty the machine, i.e. remove all products from the machine, before configuring it for a different product.

Failure to comply with these instructions could result in injuries.

Using formats is a good option for switching the HERMA 500 applicator from one product to a different one. Formats allow you to make the necessary settings in the program quickly and easily. See the “Format” operating menu. Mechanical settings depend on the applicator’s particular installation situation and cannot be described here for all situations.

A typical setting is the start delay, which allows you to change the position of the label on the product. See parameters 100 and higher in the “Product” menu.

For information on the settings (mostly mechanical) that you can make on the various units, see the following sections below “Settings”.

Additional information about settings, functions, procedures and much more can be found in our service portal at https://www.herma.com/machines.

Settings

Adjusting the Label Web Path

Insert the label web so that it touches the leading edge (e.g. housing or screw) along its entire path. Additionally, set the paper guides so that the label web is fixed on both sides. The paper guides should be neither too tight nor too loose.

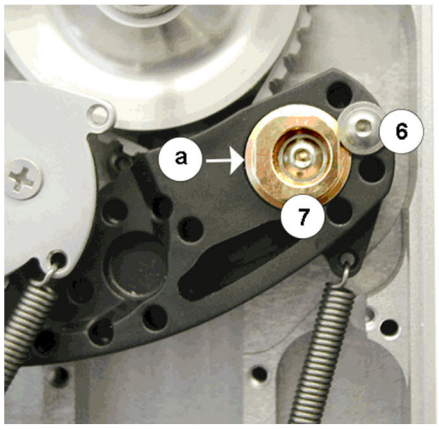
If the label web tracks (runs crooked), this can often be corrected by rotating the dispensing beak within the hole clearance.

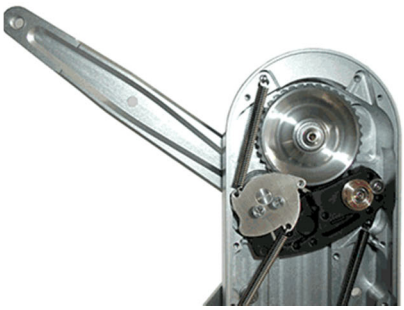
Adjusting the Roll Brake (Unwinder)

Home Position

The unwinder's braking point is preset at the factory and usually does not need to be adjusted. However, if overrun occurs in the label reel (braking point is too late) or if the reel does not rotate unless pulled strongly (braking point is too early), you may need to adjust the home position.

A suboptimal brake point setting can reduce labelling accuracy.



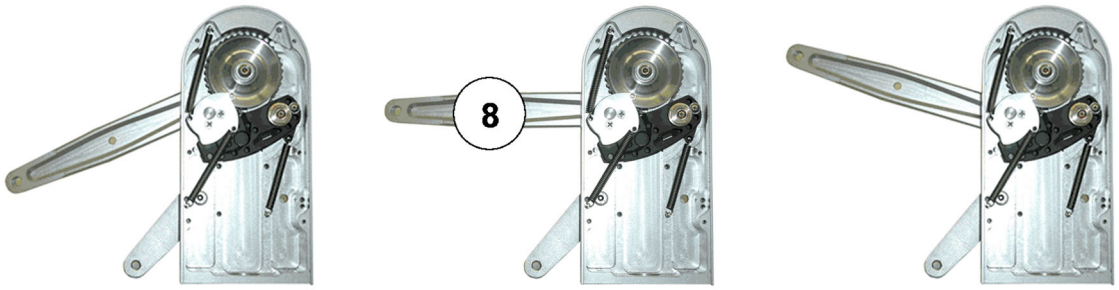


Pendulum rod home position

- After opening the cover, loosen the screw **6** on the rear (do not remove it!).
- Place a suitable tool (pin) in opening **a**.
- Rotate socket **7** slightly upwards to move the braking point towards the pendulum rod's home position (later braking), or rotate it slightly downwards to move the braking point in the opposite direction (earlier braking).
  This description assumes that you are working on the side of the socket **7** that faces the centre of the unit (point **a**).
- Then retighten the screw **6**.

The braking point is correctly set if the pendulum rod **8** is roughly perpendicular (90°) to the housing when the braking force is applied.

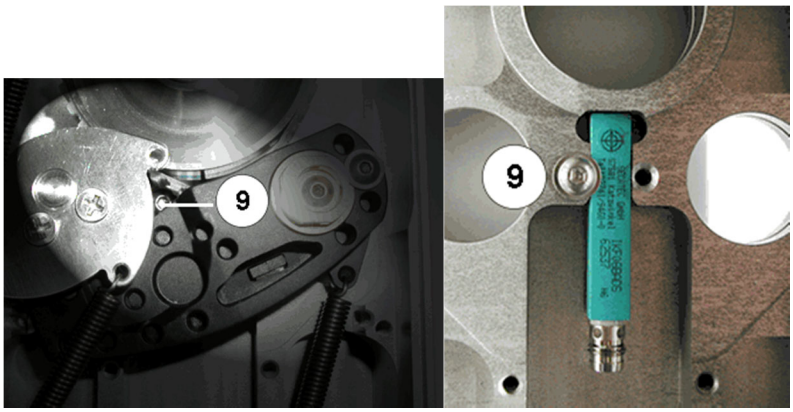
To test the braking point, insert a label reel and rotate the unwinder's disc until it will no longer turn, i.e. until the brake is open. Then release the disc. The disc will be braked and you can observe the braking point based on the position of the pendulum rod.



These figures show the position of the pendulum rod when the braking point is too early, correctly set and too late.

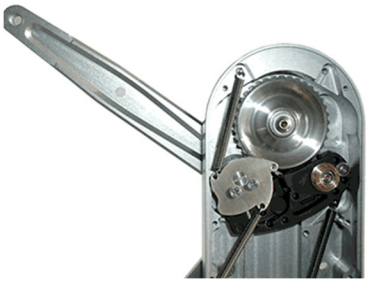
Replacing the Proximity Switch (Unwinder)

If your unwinder is equipped with a proximity switch to detect the end of the label web, observe the following when replacing a faulty proximity switch:



- After opening the cover, loosen the screw **9** on the rear (do not remove it!).
- Remove the faulty proximity switch and insert the new one.
- Then retighten the screw **9**.

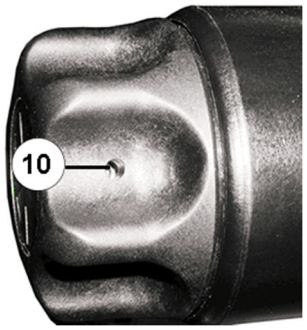
The screw **9** is accessible when the pendulum rod is in the home position.



Pendulum rod home position

Replacing the Handle (Unwinder/Rewinder)

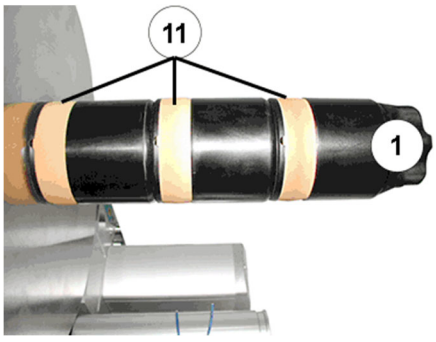
If, after a long period of use, the handle ceases to reliably operate the roll clamp, replace the worn handle while observing the following:



- Turn the handle all the way to the left (maximum of five steps) to open the clamp and provide access to the fastening screw **10**.
- Loosen the screw **10** (do not remove it!), pull the handle off, place the new handle on and retighten the screw **10**.

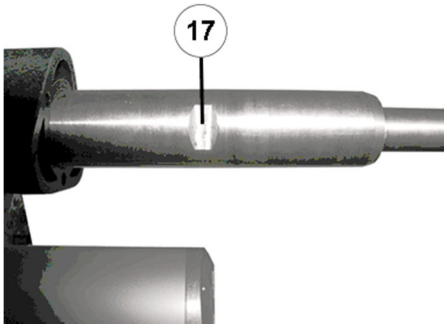
Replacing the Tension Rings (Unwinder/Rewinder)

If the tension rings **11** become worn after a long period of use, replace the rings while observing the following (example with overall width of 16, vertically installed applicator):



- Remove the handle as described in “Replacing the Handle (Unwinder/Rewinder)”.
- Remove parts that are now free.
- Loosen the screws that were exposed by removal of the parts (do not remove the screws!).
- Remove additional parts that are free.

- When reassembling the unit in reverse order with new tension rings, make sure that the screws are positioned exactly on the intended surfaces **17**.



Once the unit is completely assembled, the screws must be arranged in a line.

Important: *The pins (three per plug-in piece) are essential for proper functioning of the unit.*

After assembly, check that the unit is working properly and reliably clamping.

Teaching In the Angle Sensor (Motorised Unwinder/Rewinder)

In certain cases, e.g. with a new unit, you may need to teach in the rest and maximally deflected pendulum positions to ensure that the unit functions properly and to prevent error messages. Proceed as follows to teach in the positions:

- Disconnect the unit from the voltage supply.
- Empty the unit.
- Press and hold the illuminated button while connecting the voltage supply. Continue holding the illuminated button. It will flash at a low frequency.
- Push the pendulum slightly farther into the rest position.
- Release the illuminated button. It will flash with high frequency, e.g. in rapid succession.
- Now move the pendulum all the way to the tensioned position, i.e. to its maximum deflection. Press the illuminated button briefly. It will flash slowly. This means that the teaching-in process was successful.

Finally, disconnect the unit from the mains and then reconnect the voltage supply.

If the teaching-in process was not successful, an error code is issued (see “Unwinder: Motorised”) and the process must be repeated.

NOTICE	The customer may reduce the factory-set maximum pendulum deflection by no more than 20°, as otherwise proper functioning of the unit is no longer guaranteed.

Activating Smooth Mode (Motorised Unwinder)

For certain applications, the winder (in this example, the motorised winder) is too dynamic in its movements. It is therefore possible to set the winder to run more “smoothly”, to start and stop less abruptly. Proceed as follows to set to smooth mode:

- Press and hold the blue illuminated button for more than 20 seconds. During these 20 seconds, the button will flash slowly at first and then more rapidly.
- Once the illuminated button starts flashing rapidly, move the pendulum to the tensioned position.
- Release the illuminated button.
- Move the pendulum to the rest position.
- Press the illuminated button again. The winder is now in smooth mode.

To return the winder to normal mode, perform the same steps again.

Winder system DIP switch

The DIP switches on the motherboard can be used to adjust certain settings for parameterising the unit. Note: This basic winder unit is used not only for the unwinder but also for the rewinder and the loop module. Moreover, these units are also used in magazine fillers (e.g. for an EasySplicer).

DIP switches

Switches 1 and 2

Determines the type of unit

On – On: Loop module/magazine filler

On – Off: Unwinder

Off – On: Rewinder

Off – Off: not defined

Switches 3 and 4

Determine the size of the unit (Ø of holding disc)

On – On: 600mm

On – Off: 400mm (select this setting on the magazine filler)

Off – On: 500mm

Off – Off: 300mm (select this setting on the loop module)

Switches 5 and 6

Determine the unit's core diameter

On – On: not defined

On – Off: 6" • 152mm

Off – On: not defined

Off – Off: 3" • 76mm (select this setting on the loop module and the magazine filler)

Switch 7

Determines the unit's pendulum type / the shaft size for the loop module

On: Double pendulum / long shaft

Off: Single pendulum / short shaft (select this setting on the magazine filler)

Switch 8

Determines the unit's preset direction of rotation when viewed from the front of the unit and looking at the disc/roller.

(Motorised unwinder: use the illuminated button to make a change.)

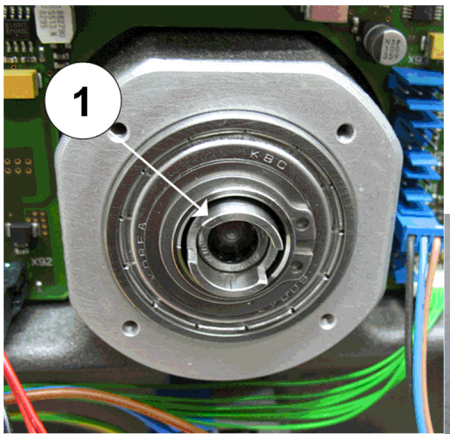
Motorised rewinder: observe the information below.

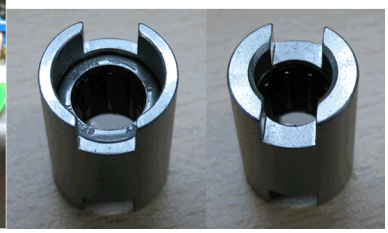
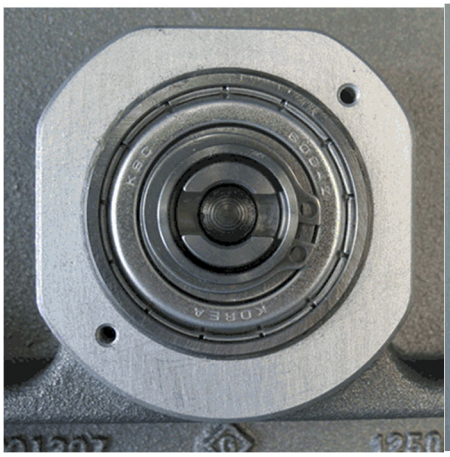
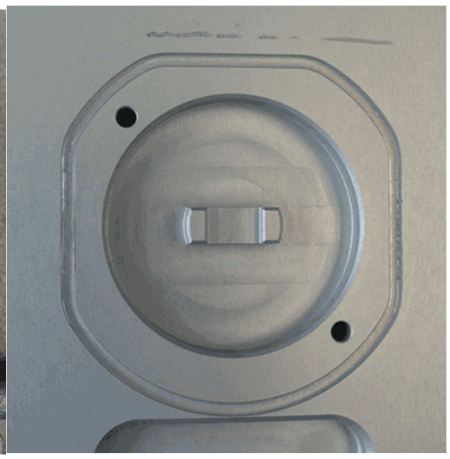
On: Clockwise (choose this setting on the unwinder/winder in version **R**, on the loop module and the magazine filler in version **L**)

Off: Anticlockwise (choose this setting on the unwinder/winder in version **L**, on the loop module and the magazine filler in version **R**)

NOTICE	If you change the rewinder's direction of rotation using DIP switch **8**, the change does not take effect until you teach in the angle sensor again (see "Teaching in the angle sensor (motorised unwinder/rewinder)").

After you change the direction of rotation, you also have to rotate freewheel **1** by 180°! When installing the freewheel, make sure it is horizontal so that the cover can close.



FS03 Sensor

Label Material, Minimum Requirements

The gap between the labels must have the following dimensions, depending on the applicator speed:

Applicator speed // Width of gap between the labels

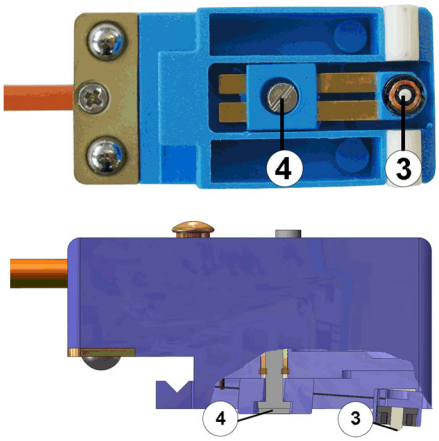
<= 40m/min • 1,600"/min

2mm • 0.08"
>= 40m/min • 1,600"/min, <= 120m/min • 4,700"/min Min. 2.5mm • 0.1"
>= 120m/min • 4,700"/min Min. 3.0mm • 0.12"

Replacing the Sensor Head

Unscrew the screw **4** to replace the sensor head **3**.

The sensor needs to be readjusted after you replace the sensor head (see “Setting Mode” in the “Label Sensor: FS03” section).

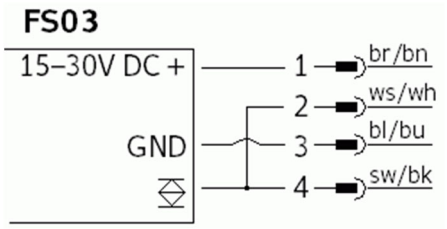


Technical Data

Operating voltage: 15 – 30V DC
Rated current consumption: <= 25mA
Output current:

max. 20mA
Output voltage low/high: $<= 2.5V / >= V_B - 3.5V$
Temperature (operation/storage): 0 – 50 C / -20 – +80°C • 32 – 122 F / -4 – +176°F
Degree of protection: IP 20
Protection class: III
Protective circuitry: Short-circuit protection, inverse-polarity protection

Connection Diagram



Forked Light Barrier

Adjusting the switching point

Manual teach-in while the label web is moving (dynamic)

Preparation: Insert the label web into the sensor.

- Press the set button until the green and yellow LEDs start flashing at the same time.

- Release the set button.
- During the teach-in process, the switch output is frozen on the last valid status before teach-in. Transport the label web with a maximum speed of 20m/min through the sensor so that at least 3 to 7 labels pass by the sensor.
- Pressing the set button again will end the teach-in process and the sensor will switch to the standard function.

In order to achieve stable switching points, move at least 3 to 7 label gaps through the sensor.

If there is an error during the teach-in process (for example, the transmission of the backing paper is too low), the red LED lights up and the green and yellow LEDs begin flashing quickly. To acknowledge the error, press the set button quickly and restart the teach-in procedure. If the error cannot be corrected, then the label material cannot be detected with this sensor.

Manual teach-in when the label web cannot be transported (static)

Preparation: Remove one or more labels from the backing paper and place this empty backing in the sensor.

- Press the set button until the green and yellow LEDs start flashing at the same time.
- Release the set button.
- During the teach-in process, the switch output is frozen on the last valid status before teach-in.
- Pressing the set button again will end the teach-in process and the sensor will switch to the standard function.

If there is an error during the teach-in process (for example, the transmission of the backing paper is too low), the red LED lights up and the green and yellow LEDs begin flashing quickly. To acknowledge the error, press the set button quickly and restart the teach-in procedure. If the error cannot be corrected, then the label material cannot be detected with this sensor.

Setting the switching behaviour of the switch output (signal in the label gap/on the label)

- Press the set button until the green and yellow LEDs start flashing at different times.
- Release the set button – the green LED keeps flashing, the yellow LED switches slowly between ON and OFF.
- Yellow LED ON = Output switches to the label gap.
  Yellow LED OFF = Output switches to the label.
- If you press the button again when the LED is ON, the device switches to the label gap. For the purposes of checking, the switching behaviour is displayed as long as you press and hold the set button. To switch the output to the label, you must press the button when the LED is OFF.
- Setting is complete.

Cleaning, maintenance, service

Cleaning, Maintenance, Service

Authorised Staff

- User 1 – for general cleaning tasks
- Specialist – for replacing components

Switch off the applicator!

WARNING

Accessing the machine for cleaning and maintenance purposes could cause unexpected actions and short circuits. For this reason, observe the following:

Switch off the power supply before maintaining or cleaning the machine.

Reattach any protective covers after this work is complete.

The machine may only be operated, maintained and serviced by trained personnel. Additional training must be provided.

When the machine is switched off for maintenance and servicing, ensure that the main switch cannot be switched back on without authorisation.

After you disconnect the HERMA 500 applicator from the mains, wait at least five minutes before opening the housing or touching the connection pins.
RESIDUAL VOLTAGES!

Failure to observe this information could result in serious injuries.

Deactivate the compressed air!

CAUTION

Disconnect the compressed air supply before cleaning the machine or performing maintenance work.

Cleaning

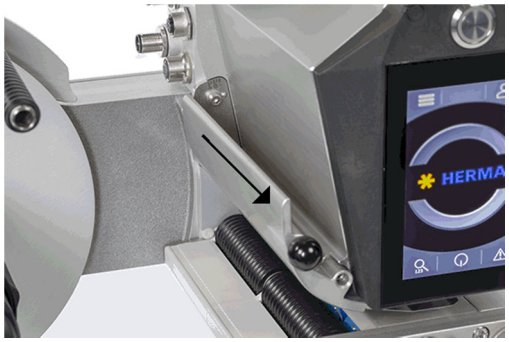
Observe the safety instructions in the Cleaning, Maintenance, Service section!

Clean the applicator at regular intervals. See the maintenance schedule for the intervals and the components to be cleaned.

You will find information on the individual assemblies in the sections below:

Label Web Brake

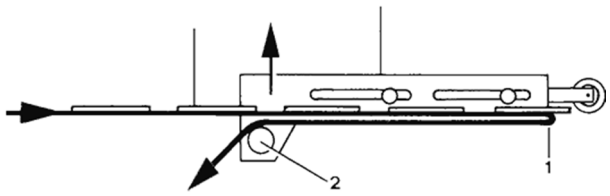
The brake plate can be completely removed.



Pull in the direction of the arrow and note that you will have to overcome a bit of resistance. Do **not** pull on the black release knob.

Pivot Beak

Remove the guide roller **2** together with the axle to clean it.

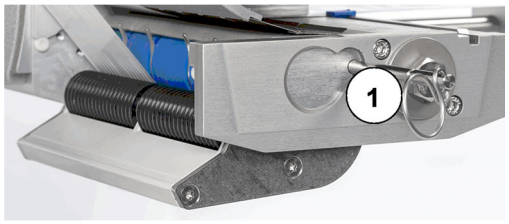


Moving Dispensing Beak

To clean the guide rollers, simply pull them out. When reinstalling them, note that the rollers will give noticeable resistance when you are pushing them back on.

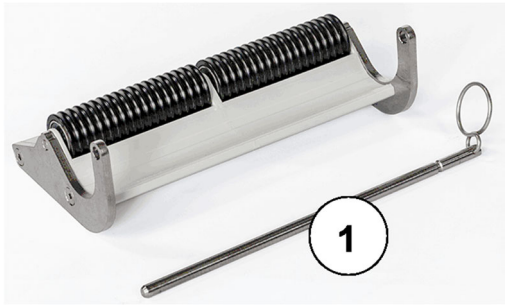
Drive/Transport Roller

The clamping plate can be completely removed. Proceed as follows:



Press the clamping plate down to open it.

Pull the pin **1** completely out. Remove the clamping plate to clean it and the transport roller.



After cleaning, replace the clamping plate and secure it with the pin **1**.

Maintenance Schedule

⚠ Observe the safety instructions in the Cleaning, Maintenance, Service section!

Clean all relevant components on a regular basis according to the maintenance schedule below:

NOTICE	Use only cleaning material that does not attack metal, rubber, or plastic parts.

Make sure that all machine parts that touch the products to be labelled are free from adhesive or label residues. Remove adhesive residue with a label solvent.

Clean the label sensor/scanning unit with a soft cloth only.

Do not remove adhesive residue from guide and transport rollers with sharp-edged objects.

Do not use excessive amounts of fluids during cleaning. Do not use high-pressure or steam cleaners.

Recommended interval // Maintenance task

Daily
Dispensing system / transfer system Remove any adhesive residue and clean the unit.
Applicator transport roller Remove any adhesive residue and clean the unit. See also the operating instructions for the applicator.
Applicator brake plate Remove any adhesive residue and clean the unit. See also the operating instructions for the applicator.
(Guide) rollers Remove any adhesive residue and clean the unit.
Sensors Remove the dust from light barriers/sensors with a soft, dry cloth (if applicable, see the separate instructions for the relevant sensor).
Weekly
Housing/frame Clean the unit, including the display.
Pneumatic system (if applicable) Check the air supply and components (see the separate instructions for the components if applicable).
Monthly
Signal columns (if applicable) Check the lamps.
Every 5 years
Check all **pneumatic lines** to see if they have become porous; replace them if necessary (if applicable).

Every 10 years Replace all **pneumatic lines** (if applicable).
General, depending on intensity of use The toothed belt in the base unit of the applicator and the belt for the backing paper take-up unit will require replacement after approx. 50,000,000 to 100,000,000 labelling cycles.

Service and customer support

In the service portal you will find all information about service and technical support for the HERMA labelling solutions – available 24/7 and from anywhere in the world. Whether you have questions about your order or need help because your applicator is not working, the HERMA service portal provides you with a single platform for all your concerns. You only need to request access once and then you have access to the portal as well as to our integrated online shop for replacement parts (formerly HERMA Components). The content is continuously expanded and updated, including on the basis of customer feedback. Because we guarantee that our customers can rely on our applicators and labelling systems at any time.

Our portal also offers additional information about your applicator that goes beyond these operating instructions, for example explanatory videos, troubleshooting information, expanded versions of the operating instructions with additional illustrations, replacement parts lists and much more. You can also book maintenance and service visits and order replacement parts.

You can also visit the portal to gain information on the following topics:

- Registering your applicator
- Upgrading your applicator's functions
- Remote access to your applicator

https://www.herma.com/machines

We're at your service.

Note: Log in to the portal as a user to use these additional functions. In order to download the latest version of the software or back up your firmware, you must also register your basic unit(s) in the portal. The menu items for software/firmware can be found under the "Startup" menu item. The menu items are named "Register HERMA 500 base unit" or "Your HERMA 500 base units".

Malfunctions and Troubleshooting

Authorised Staff

- User 2 – for general activities and non-critical settings
- Technician – for more advanced parameter settings and mechanical settings
- Specialist – for replacing components

Observe the information in the “What to Do in an Emergency” and “Measures in Case of Fire” sections.

For each message the program contains an explanation about the cause and possible solution, which you can access by tapping the info button ⓘ or, if the message list is open, by tapping directly on the message. See the “Troubleshooting” section.

In case of malfunctions or faults that you cannot correct yourself, please contact our nearest customer support centre. See the “Customer Support” section.

The following section contains a table with possible (mechanical) malfunctions that you can correct by yourself.

Malfunction // Cause // Solution

Applicator does not start up • No mains voltage. *=> Connect applicator to mains.* • Applicator not switched on. *=> Activate switch on applicator housing.* • Plug connections loose. *=> Check plug connections and make sure union nuts are screwed on tightly.* • Drive faulty. *=> Replace the base unit.*
Applicator does not dispense label

- Label web inserted incorrectly.
  => *Insert label web according to the description of the particular component.*
- Application roller disengaged.
  => *Lock application roller into place.*
- Toothed belt faulty.
  => *Replace toothed belt.*

Label web passes through continuously

- Label sensing/scanning misadjusted.
  => *Reset the switching point.*
- Label sensor defective.
  => *Replace label sensor.*
- Label sensor dirty.
  => *Clean label sensor.*
- Too little space between labels.
  => *Choose lower speed for label web.*

Label web tears

- Backing paper punched.
  => *Reduce backing paper tension, reduce pressure of label web brake.*
- Label residues clamped beneath sensing/scanning unit.
  => *Clean label sensor.*
- Label web guide too close to the label.
  => *Adjust label web guide to label web width.*
- Label web inserted incorrectly.
  => *Insert label web according to the description of the particular component.*
- Label web tracking.
  => *Adjust dispensing system.*

Backing paper is not wound up

- Drive belt torn.
  => *Replace drive belt of backing paper take-up unit.*

Labels are placed inaccurately

- Product sensing inaccurate or defective.
  => Check the product sensor and correct if necessary.
- Label sensor loose or faulty.
  => Fasten or replace and adjust the label sensor.
- Application roller misadjusted, backing paper slips.
  => Adjust application roller correctly.
- Irregular distances between labels on backing paper .
  => Check for regular distances between labels on label web; in case of irregular distances use new label reel.

Troubleshooting

Error and Event Messages

Error messages are messages that cause the machine to stop and must be acknowledged with the confirm button ✓. Error messages are indicated by the text “SM” followed by a three-digit number.

Event messages are messages that provide information or warnings and do not have to be acknowledged. Event messages are indicated by the text “BM” followed by a three-digit number.

Notice: The components of the winder system (motorised unwinder, loop module and rewinder) have their own error codes, which are displayed via their illuminated buttons. These codes are described in the components’ corresponding sections.

Indication of Malfunctions

The HERMA 500 applicator shows the type of malfunction on the display directly on the applicator. In case of error messages, the display turns red and the number of the error message (**11**) is displayed. The error message text is displayed below the number.

For event messages, the display turns yellow.


Störung
SM 186
Check level of label sensor
Info
Label sensor possibly misadjusted. Imbalance of gap width to label length. Change from paper label to metallized label.
123

11

13


020
007
mm
60.0
035
190
123

13

Acknowledging Malfunctions

If the applicator is connected to a higher-level controller, errors can often be acknowledged from a central location (e.g. on a touchscreen).

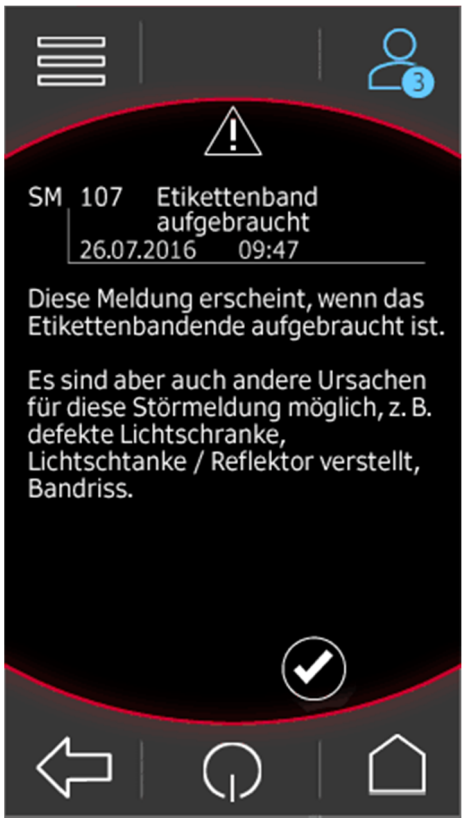
Always dispense at least two labels (pressing the dispense button ⇩) after occurrence of a malfunction in order to ensure that a label is correctly positioned at the dispensing beak. If optional pressure or monitoring systems are available and activated on the applicator, you have to dispense as many labels as are located between the dispensing beak and the unit farthest from the dispensing beak.

Tap the confirm button ✓ to acknowledge malfunctions. If you do not acknowledge a malfunction immediately, the triangle icon **13** indicates that malfunctions are pending and how many. Tapping the history button ⚠ displays a list of past messages.

Acknowledge the messages to clear the list.

Message Explanation

If an error message is pending, tap the info button ⓘ or, if the message list is open, directly on the message to see an explanation of the displayed message.



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The confirm button ✓ is also displayed here for acknowledging the message.

Starting Up after a Malfunction

1. Remove the cause of the malfunction; i.e. rectify it.
2. Start up the machine as usual.
3. For malfunctions that cause or require the machine to be switched off, proceed as after a power failure. Refer to the next section.

Power Failure

After a power failure, the machine may be in an undefined state. Always observe the following to ensure that production is resumed without any problems:

1. When the power comes back on, proceed as described in the “Start-up” chapter.
2. Remove any labels that are protruding or have not been dispensed completely. Make sure that a label is flush with the dispensing beak (normal position).

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Replacement parts

Replacement Parts

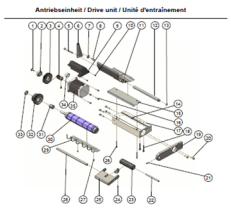
Online Ordering

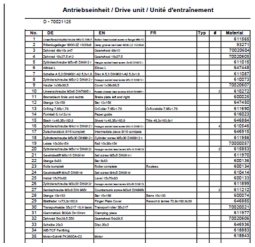
Order replacement parts for the HERMA 500 applicator at your convenience in the HERMA Online Shop:

https://www.herma.com/machines

Exploded View Drawings

Exploded view drawings for the assemblies of the HERMA 500 can be found in a separate document. Visit our service portal at https://www.herma.com/machines.





CE declarations

CE Declarations

Original, paper copies of the product's declarations of incorporation and conformity are provided in the applicator's packaging.

Conformity Declaration for the FS03 label sensor

HERMA GmbH

70791 Filderstadt

We hereby declare that we are solely responsible for the development, design and manufacture of the FS03 label sensor in accordance with the following regulations:

EC electromagnetic compatibility directive 2014/30/EU

IEC 60947-5-2:2007 (low-voltage switching devices, control units and switching elements – proximity switches)

20/04/2016

Managing Director

RoHS Directive

The HERMA 500 applicator complies with the requirements laid out in the RoHS Directive 2011/65/EU.

Glossary

A

Adhesive label: Self-adhering labels that either adhere permanently or are removable are referred to as adhesive labels.

Application: Refers to a certain type of operation, manner of operation or purpose.

B

Backing paper: The part of the label web on which the labels are located and which is rewound after the labels are dispensed.

Base unit: This term refers to the assembly that contains the drive motor and the display (HMI). The dispense button is also included in the base unit.

C

Clamping plate: Device for fixing the label web between this plate and the transport roller. Required for transporting the label web.

D

DIP switches: A small sliding switch in the base unit of winder systems for selecting a certain function on the winder.

Dispensing: Transport of the label web, generally to detach a label from the web, is referred to as dispensing. In production this occurs automatically, but it can also be performed manually using the dispense button located above the display.

F

Format: A set of parameters for processing a specific product. Saving and reusing formats allows you to set all necessary parameters and their values with a single click.

FS03: A label sensor developed by HERMA that is also suitable for transparent labels.

H

HMI: Abbreviation for “human machine interface”. Refers to a display, e.g. the touchscreen used in the HERMA 500.

L

Label sensor: A sensor that detects the beginning and end of a label, i.e. the gaps between the labels, during transport of the label web.

Label web: The label web consists of the backing paper and the labels located on it.

Loop module: This module between the unwinder and dispensing system produces a loop in the label web to reduce tension on the web. This increases both the possible applicator speed and the precision of label application.

P

Password level: The authorisation level. Password levels can be used to assign different authorisations, i.e. access to parameters and functions, to a user.

R

Radio menu: A menu in which exactly one option can be selected from multiple options by way of radio buttons (small, round selection fields).

Rewinder: Device for rewinding the backing paper left after the labels are dispensed.

S

Sensor: Also referred to as label sensor.

Smooth mode: An operating mode for the motorised unwinder in which the winder can be set to run more “smoothly”, i.e. start and stop less abruptly.

Start page: The terms start page and start screen are used interchangeably and both refer to the screen that first appears when the applicator is switched on. This screen is also displayed after the corresponding button is tapped (see icons).

Suction plate: The suction plate on a transfer unit holds the label using a vacuum after the label is dispensed from the backing paper so that it can be applied to the product by a linear unit.

T

Tension ring: A plastic ring in the unwinder or rewinder that expands to clamp the label web or backing paper in place.

Threading diagram: An illustration that shows how to insert the label web in the applicator.

Transfer unit: This unit takes a label from the label web (generally using a vacuum) and then applies it to the product in a linear motion.

U

Unwinder: Device for holding and unwinding a label reel and feeding it to the dispensing beak.

W

Winder: This term (also known as the “winder system”) comprises the motorised versions of the unwinder, rewinder and loop module. The base unit for these three units is always the same.

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