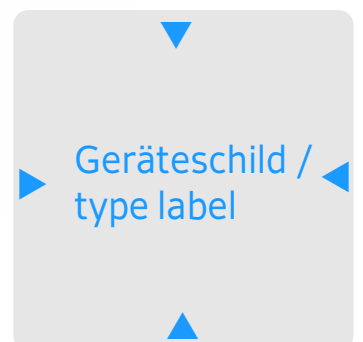


# Operating instructions

## Label applicator **HERMA 400**



US

## Preface



**Read and understand all parts of these operating instructions before unpacking, installing or operating on the applicator.**

**They contain important instructions for ensuring your personal safety. These operating instructions must have been read and understood by all persons carrying out work on this applicator in any production phase.**

**Especially important are sections 2, „General information“, where you can find information on all types of safety messages and their meaning, and section 3, „Safety“, which gives you details on your personal safety and the responsibility of the various users of this Product.**

**Inform yourself about the applicable accident prevention regulations at the location and the general safety regulations.**

**Keep these instructions and all accompanying documents (the „documentation“) , for example the wiring diagram, in a safe location for future reference.**

**These operating instructions are an integral part of the machine. They must be made available at the place of operation throughout the entire service life of the applicator.**

**Failure to do so could result in serious injury or death or property damage.**



**Please note that You as an operator of the machine bear the risk and the liability in the following cases:**

- > non-compliance with these instructions
- > unintended use
- > the use of untrained personnel
- > connection to any unapproved electrical system
- > the use of unapproved replacement parts
- > the repair and replacement of the Product(s) or any part thereto due to normal wear and tear, vandalism, accidents, negligence, or otherwise without any fault of the manufacturer
- > repairs, alterations or adjustments to the Product(s) performed or originated by the Purchaser or any third party without manufacturer's prior written consent
- > unsuitable raw or working materials
- > unreasonable use
- > misuse
- > abuse
- > accident
- > alteration
- > lack of maintainance
- > use after the Product is significantly worn
- > and other similar cases

## Applicability

These operating instructions apply to the following system:

Label applicator:	Type <b>HERMA 400</b> (the „Product“)
Year of construction:	Specified on the type label (also on the cover sheet)
Manufacturer:	HERMA GmbH Geschäftsbereich Maschinen 70791 Filderstadt, Germany Telephone: +49 (0)711 / 7702 0 Fax: +49 (0)711 / 7702 700 www.herma.com
Technical service:	Tel.: +49 (0)711 7702 551 / +49 (0)711 7702 777 Fax: +49 (0)711 7702 786 service-machines@herma.com service-maschinen@herma.com https://machines.herma.com
Issue date:	May 13, 2019
Version:	3.28 US (130519)



The documentation must be passed on to the new owner if the machine is sold.



Find an overview of the **HERMA 400** applicator and its function in chapter 1 on page 12.

## Copyright

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The information included in these operating instructions and/or in all of the sections, sub-sections and chapters of them is the intellectual property of the manufacturer and is subject to domestic and international copyright law and other laws for protecting intellectual property.

The information provided here is used to operate, maintain and correct faults for the units described here.

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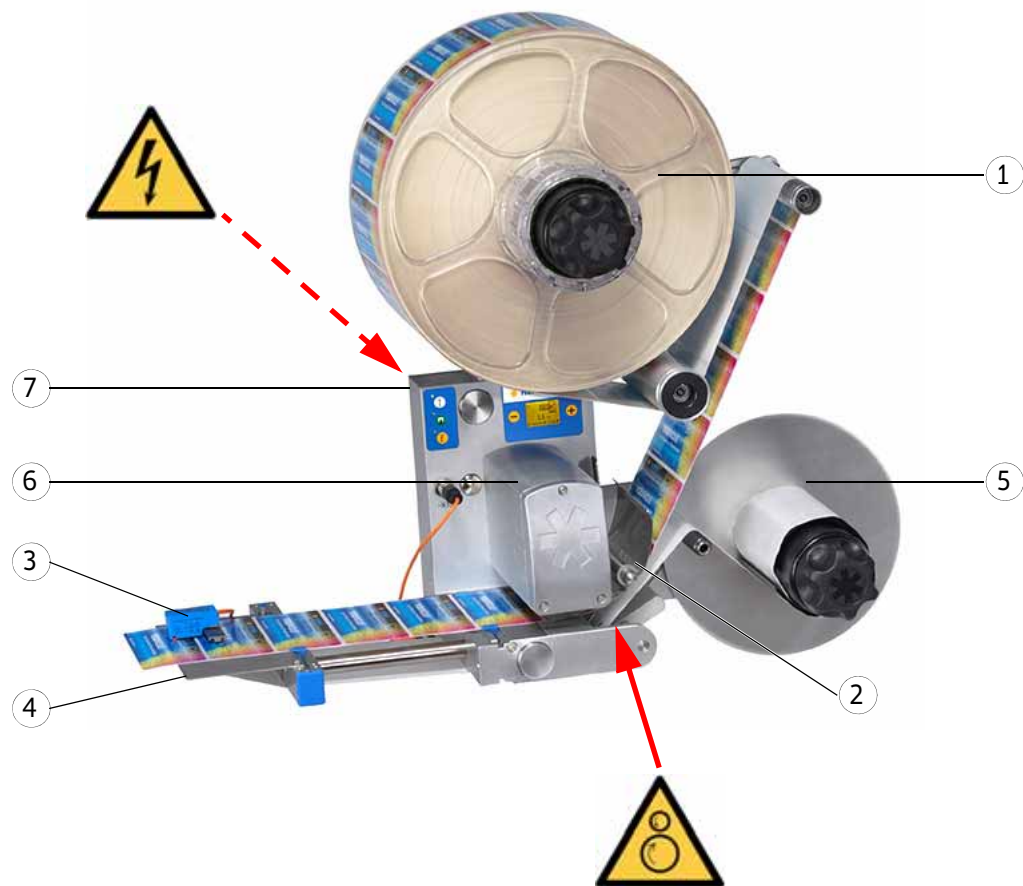
# 1 Overview of the applicator

---

On the following pages you can see what your applicator is made up of, can learn

- > which sub-assemblies the applicator comprises,
- > how we name different items,
- > what the functions of the applicator are – and which functions are not intended –,
- > where there are hazard points,
- > how to avoid hazardous actions,
- > and more.

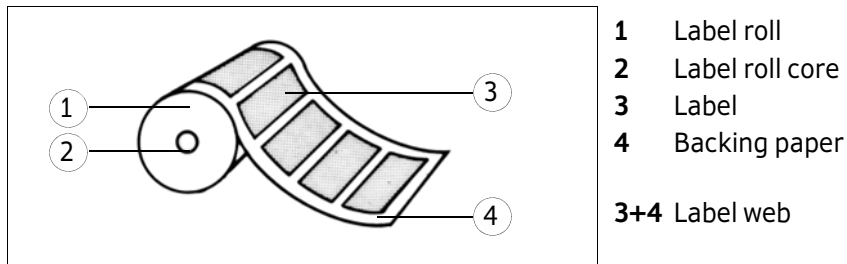
# Overview



## Sub-assemblies (see picture):

1. Unwinding the label web (with the help of the „unwinder“; shown here: standard unwinder; alternatively used: motorized version)
2. Tightening the label web (with the help of the „web brake“)
3. Sensing the individual labels on the web (with the help of the „label sensor“; shown here: model FS03; alternatively used: optoelectronic sensor, for example, and others)
4. Dispensing the labels off the web (with the help of the „dispensing beak“, or „dispensing plate“) (shown here: rigid dispensing plate; alternatively used: pivot beak, for example, and others)
5. Rewinding the backing paper after dispensing the labels (with the help of the „rewinder“, or „backing paper take-up unit“; shown here: standard rewinder; alternatively used: motorized version)
6. Motor and integrated applicator control (called „drive unit“)
7. Housing

The applicator shown above is a configuration example and may differ from the version delivered to you. You will find information on different sub-assemblies in section 4.1 as of page 23.



## Warning symbols on the applicator

These symbols / hazard notification labels are used on the applicator:



### DANGER

**Risk of electric shock. 110–240 Volts may be present.**

Disconnect all sources of supply and wait for five minutes before opening the rear cover or touching the connector pins!

If components are worked while the applicator is not disconnected from mains on this could cause electrocution.

In this specially designated area, work must be performed only by trained electricians. Unauthorized persons are not permitted to open the designated area.



### WARNING

**Risk of being drawn in.**

Do not reach into the area where the feed roller draws in the web when machine is on!

This could lead to serious injuries.



### WARNING

**Risk due to missing hazard notification labels.**

Verify that all hazard notification labels shown on the overview picture are in place.

If hazard notification labels are not present, this could lead to injuries. Contact your HERMA representative before energizing your machine

Find information on safety messages in chapter 2 as of page 15.

Find comprehensive general information on safety in chapter 3 as of page 17.



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## 2 General information

### 2.1 Handling of the documentation

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

The operating company 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.

### 2.2 Explanation of symbols

Warnings in these operating instructions are indicated by a warning symbol () and/or signal words. The signal words describe the extent of the danger. See the following section.

Follow the instructions precisely and act cautiously to prevent accidents, personal injury, damage to property and life-threatening dangers.

#### 2.2.1 Signal words

**Danger:** Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

**Warning:** Indicates a hazardous situation which, if not avoided, could result in death or serious injury.










**Caution:** Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

Furthermore this word is used:

**Notice:** Indicates a situation which, if not avoided, could result in physical damage at your applicator.

## 2.2.2 General designations

Elements of the **HERMA 400** control are designated and depicted in these instructions as follows:







	Switch-on key
	Manual feed key
	Function key
	LED (on)
	LED (blinks)
	LED (off)
	Minus key
	Plus key
	Enter key

Find further explanation on these elements in section 9.1.

The **HERMA 400** applicator is configured and offered as different model types.

The applicator type will be indicated in the basic display image with a corresponding letter, provided, parameter „915 Ready screen“ is set to **00**. See page 122.

Find here an overview of these models / letters and the corresponding symbols used in this manual:

Symbol / Abbreviation	Type name
	Vario
	Vario M
	Premium
	Premium Plus Serial
	Econ
	Idea



**Notes:** A few of the illustrations used in this manual are examples and may differ *sightly* from the configuration of your applicator.  
Furthermore, note that the **HERMA 400** applicator is available in both left-hand and right-hand versions and that some illustrations may only show one of these versions.

# 3

## Safety



### WARNING

Risk of disregarding or neglecting possible dangerous situations or actions.

Read and understand all the safety notes described in the following sections as well as the safety messages found in the rest of these operating instructions

Failure to do so could result in serious injury or death and/or property damage.

### 3.1 Important Safety Information

This section provides an overview of all of the important safety aspects for ensuring optimum protection for personnel and safe and trouble-free operation.

Non-compliance with the guidelines and safety instructions listed in these instructions can lead to serious danger.

#### 3.1.1 Signal word definitions



### DANGER

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.



### WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.



### CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

### NOTICE

Indicates a situation which, if not avoided, could result in physical damage at your applicator.

### 3.1.2 Mandatory signs

The signs shown here indicate that the operation must be performed without fail / the information is mandatory to take notice of.



Cut the applicator / the machine off mains.



Make sure to tie up long hair (if required, wear a hair net) and avoid wide clothing.



Make sure to read these instructions before working on the applicator.

Furthermore, this non-safety-related symbol is used:



Indicates information you should take notice of.

## 3.2 Personal protective equipment

While performing work, personal protective equipment must be worn to minimize the risks to health.



**WARNING**

**There are rotating parts at the applicator. Make sure to tie up long hair (if required, wear a hair net) and avoid wide clothing. Your hair or your clothes could get entangled in the applicator and lead to serious injuries.**



### 3.3 Symbols on the applicator

These symbols / hazard notification labels are used on the applicator.



#### CAUTION

Missing safety labels could lead to disregarding possible dangerous situations. Ensure that all symbols and signs are in a condition that is easy to read at all times. Replace any damaged signs or labels. Illegible signs can lead to dangerous situations.



#### DANGER

Risk of electric shock. 110-240 Volts may be present.  
Disconnect all sources of supply and wait for five minutes before opening the rear cover or touching the connector pins!  
If components are worked while the applicator is not disconnected from mains on this could cause electrocution.  
  
In this specially designated area, work must be performed only by trained electricians. Unauthorized persons are not permitted to open the designated area.



#### WARNING

Risk of being drawn in.  
Do not reach into the area where the feed roller draws in the web when machine is on!  
This could lead to serious injuries.

## 3.4 Proper use of the applicator



### **WARNING**

**Risk due to using the applicator in a way that is not intended. Always use the applicator only for its intended use, which is unwinding label rolls, dispensing labels and rewinding the backing paper. Any use other than the purpose described above, in particular using the system to wind any materials other than rolls of labels, is considered unintended use and is prohibited. Unintended use could lead to unforeseen action and lead to serious injuries.**

#### **> Use the applicator as intended.**

The **HERMA 400** applicator is an electronically-controlled device that is used to apply different adhesive labels to a wide variety of products.

The labeler dispenses from the backing paper one label after the other at the dispensing plate.

Transport of the label web is effected via a pair of rollers driven by a servo motor.

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

The **HERMA 400** applicator is to be used in industrial environment only. It must not be used in private environment.

The applicator can be configured for different needs and applications. This is done, apart from using different sub-assemblies (see section 4.1 as of page 23), by setting various parameters with the help of the integrated control (see chapter 7 as of page 93).

The manufacturer/distributor cannot be held liable for any damage or injuries which result from improper use. In such a case, the user assumes liability.

Keep the applicator in optimal working order.

Proper inspection and maintenance needs to be performed regularly as outlined in this manual. Any disturbances or faults must be eliminated immediately.

#### **> Follow all operating instructions.**

The applicator must only be operated by trained personnel and in accordance with the operating instructions outlined in this manual.

#### **> Observe all safety requirements.**

The applicator has been designed according to the latest technologies in mechanical and electrical engineering and according to recognized safety rules. Nevertheless, the use of this system may imply danger to life and limb of the user or a third party. Also, there is potential for damage to the applicator and other assets. All safety rules outlined in the manual must be followed to minimize the risk of injury or property damage.

## 3.5 Responsibility of the operator

### Operator

... is any person who operates or allows a third party to operate the machine for industrial or commercial purposes and who bears legal responsibility for the product with regard to protecting the user or third parties during its operation.

The system is used in the commercial sector. The operator of the system is therefore subject to legal obligations with regard to occupational health and safety.

As well as the occupational health and safety information in these operating instructions, the applicable safety, accident prevention and environmental protection regulations for the field of application for the system must be complied with. The following rules apply in particular:

- > The operator must familiarize himself or herself with the applicable occupational health and safety provisions and must also perform a risk assessment to determine dangers resulting from the special working conditions at the installation location. These provisions and findings must be implemented in the form of operating instructions for the operation of the system.
- > Throughout the entire system operating period, the operator must check whether the operating instructions that he or she has created conform to the most recent version of the regulations and adapt the operating instructions if necessary.

## 3.6 Personnel



### WARNING

**If persons that were not properly instructed for using the applicator various risks may occur. The machine shall only be operated, maintained and serviced by trained personnel. Additional training must be provided. Otherwise this could lead to serious injuries.**

Trained persons have read and understood these operating instructions and have access to these instructions at any time. Trained persons should have been instructed for working at the applicator by HERMA GmbH, or by a HERMA partner.

- > Allow only trained persons to install, use, service and work on the label applicator.
- > Clearly specify the responsibilities of the personnel for operation, preparation, maintenance and repair.
- > Clearly define the responsibilities of the machine operator. The machine operator must be empowered to refuse any instructions by a third party if such instructions adversely affect safety.
- > Allow only a qualified electrician to service the electric components of the label applicator. He or she must supervise any auxiliary staff.

### Specialist personnel

... are personnel who, based on their specialist training, knowledge and experience and their knowledge of the applicable provisions, are capable of performing the work assigned to them and independently recognizing possible dangers.

### Trained electrician

... is a person who, based on his or her specialist training, knowledge and experience and knowledge of the applicable standards and provisions, is capable of performing work on electrical systems and independently recognizing possible dangers. The trained electrician has received special training for the working environment in which he or she is active and knows the relevant standards and provisions.

### Authorized person

Only persons who can be expected to perform their work reliably are authorized to work as personnel. Persons whose ability to respond is impacted by, for example, drugs, alcohol or medication are not authorized.



### WARNING

Unauthorized persons are not permitted to enter the work area! Unauthorized persons can cause dangerous situations.

The age-specific and job-specific provisions that apply at the operation location must be observed when selecting personnel.

# 4 Applicator description

In this chapter you will find an overview of the applicator [HERMA 400](#) and its sub-assemblies.

## Overview

For an overview of the applicator [HERMA 400](#) see chapter 1, page 12.

### 4.1 Sub-assemblies



#### DANGER

Risk of electric shock. 110-240 Volts may be present and could cause electrocution. Disconnect all sources of supply and wait for five minutes before opening the rear cover or touching the connector pins! If components are worked on while the applicator is not disconnected from mains this could cause electrocution.

Always disconnect mains before working on the sub-assemblies.



#### WARNING

There are rotating parts at the applicator. Make sure to tie up long hair (if required, wear a hair net) and avoid wide clothing. Your hair or your clothes could get entangled in the applicator and lead to serious injuries. Especially make sure to not reach into the area where the feed roller draws in the web when machine is on!

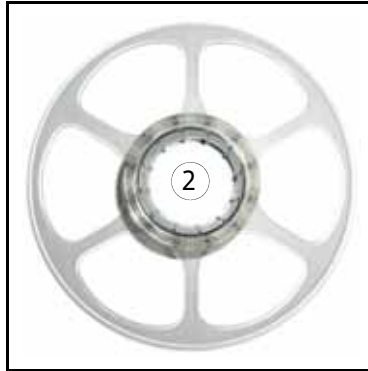
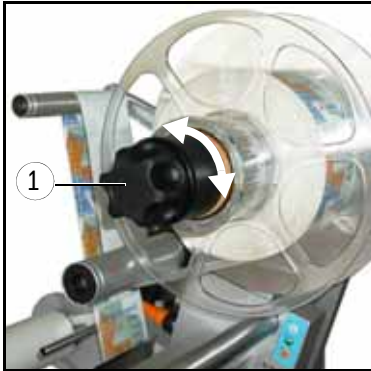
Usually there are variants for the individual sub-assemblies, e.g. standard unwinder (also: „reel holder“) or motorized unwinder (each with or without loop-type unwinder), standard or motorized rewinder (also: „backing paper take-up unit“), label sensor FS03 or forked light barrier etc. The variants used in your applicator you will take from the pictures, illustrations and descriptions in the corresponding chapter. Due to the clear distinctions between the variants you will not be able to confuse one variant with the other.

### 4.1.1 Standard unwinder

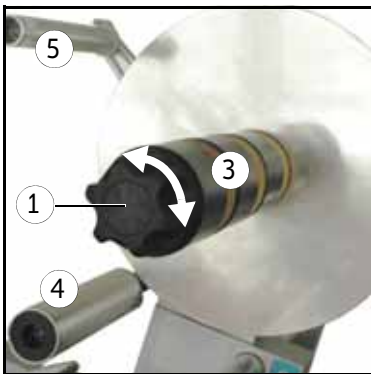


**CAUTION**

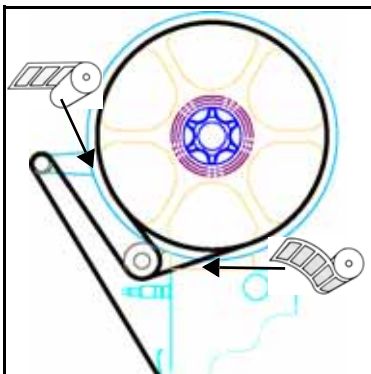
Rotating part. Do not reach into the area of this unit when the applicator is on. There is the risk of being caught or getting entangled.



#### Inserting the label web

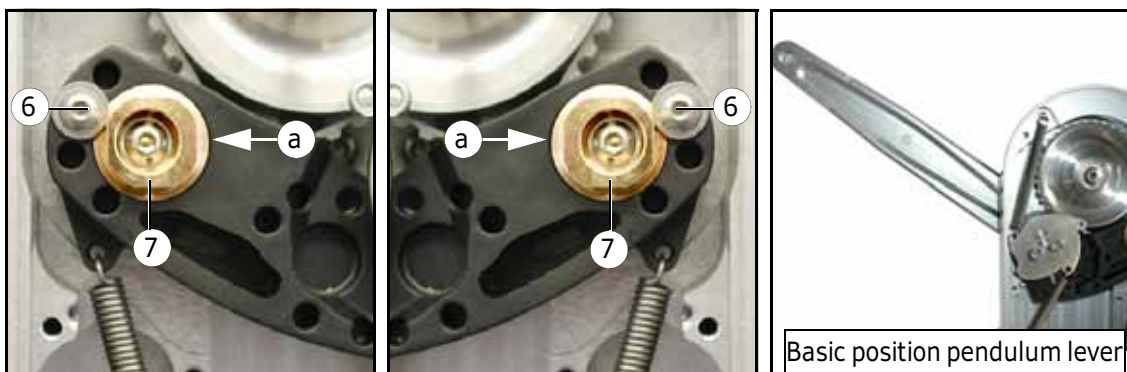


- > Turn handle **1** completely to the left (maximum of five steps) to unclamp the unit.
- > As the case may be, retract counter holder **2** (vertical versions only).
- > Put label reel over core sleeve **3** and guide label web over reversing roller **4** and pendulum **5** such that labels face downwards (i.e. labels look onto the pendulum). That way label reels with outside as well as with inside winding can be used. See the figure below.
- > As the case may be, replace counter holder **2** (vertical versions only).
- > Turn handle **1** to the right (maximum of five steps) until the label reel (plus counter holder, as the case may be) is safely clamped.



## Adjusting the reel brake (basic adjustment)

The point of activation of the unwinder's reel brake is factory-set and usually does not have to be changed. If however the label reel is too loose (activation point too late) or only moves at strong pull (activation point premature) a new basic adjustment is required. An irregular adjustment of the point of activation of the reel brake may reduce the labeling accuracy.



**DANGER**

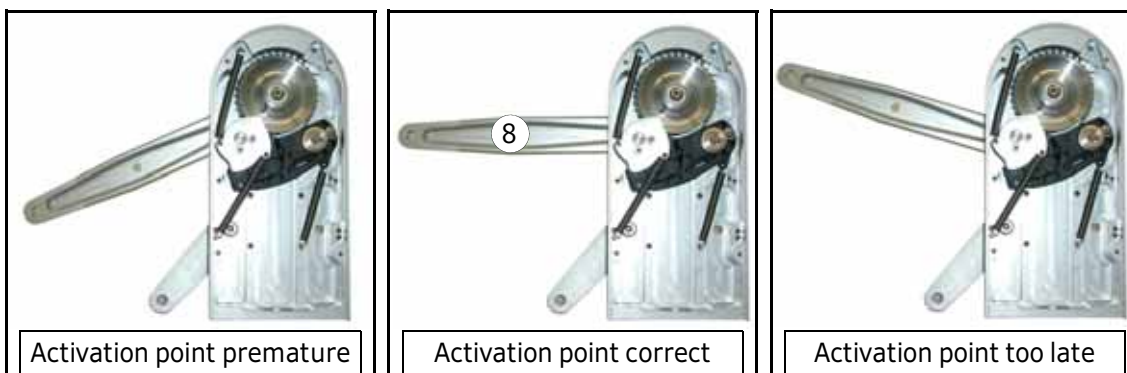
**Risk of electric shock! Disconnect all sources of supply and wait for five minutes before opening the rear cover or touching the connector pins! Electrocutation may occur.**

After opening the cover loosen screw **6** on the back (do not remove!).

- > Insert appropriate tool (pin) into hole **a**.
- > Turn bushing **7** slightly upwards to shift the activation point towards the basic position of the pendulum lever (braking later), turn it slightly downwards to shift the activation point to the opposite direction (braking earlier).
- > Prerequisite for this description is that you engage the tool at the side of bushing **7** that faces towards the middle of the unit (points **a**).
- > Fasten screw **6** afterwards.

The point of activation of the reel brake is adjusted correctly if pendulum lever **8** is about perpendicular (90°) to the housing when braking starts to work.

For checking the point of activation insert a label reel and turn the unwinder's disk until it turns easily, i.e., the brake is open. Then let the disk go. The disk will be braked and you can determine the adjustment of the activation point through the lever position.



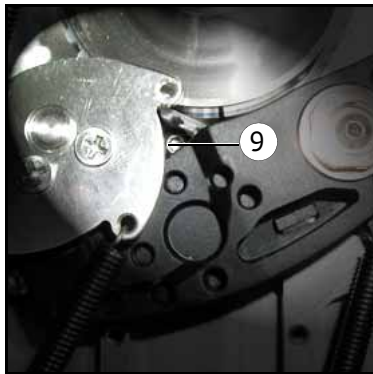
## Replacing the proximity switch

If your unwinder is equipped with a proximity switch for detecting end of reel proceed as follows when replacing a defective switch:

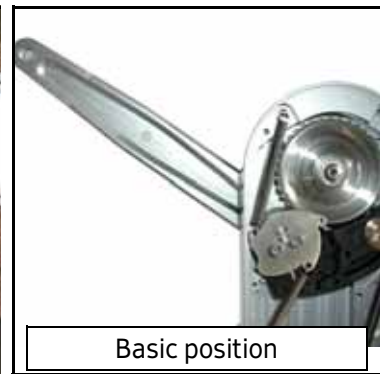
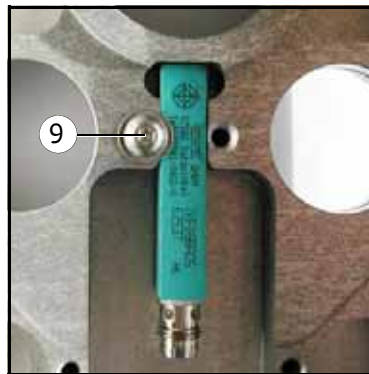


**DANGER**

**Risk of electric shock! Disconnect all sources of supply and wait for five minutes before opening the rear cover or touching the connector pins! Electrocutation may occur.**

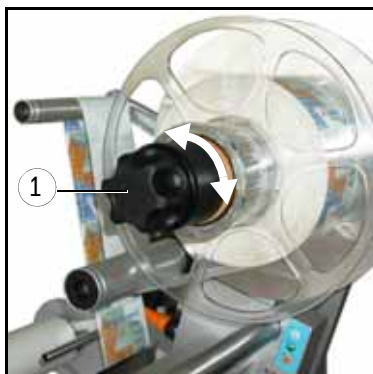


- > After opening the cover loosen screw **9** on the back (do not remove!). Take out the proximity switch and insert a new one. Fasten screw **9** afterwards. Screw **9** is accessible if the pendulum lever is in its basic position.

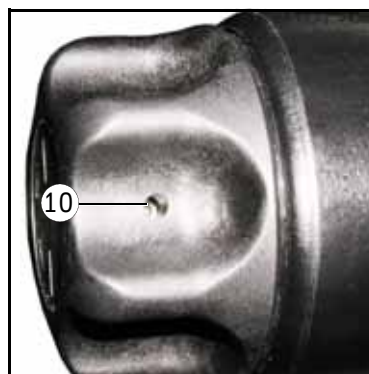


## Replacing the handle

If after a very long time of use clamping of the reel with handle **1** does not function properly anymore proceed as follows when preplacing a worn handle:

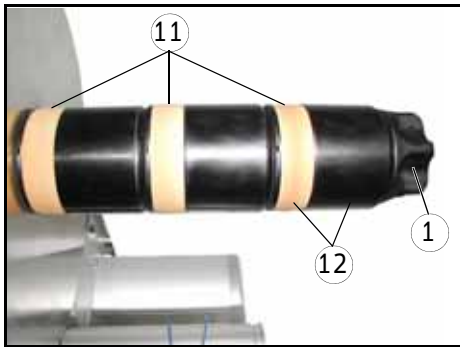


- > Turn handle **1** completely to the left (maximum of five steps) to unclamp the unit and make screw **10** accessible. Loosen screw **10** (do not remove!), retract the handle, insert new handle and fasten screw **10** afterwards.

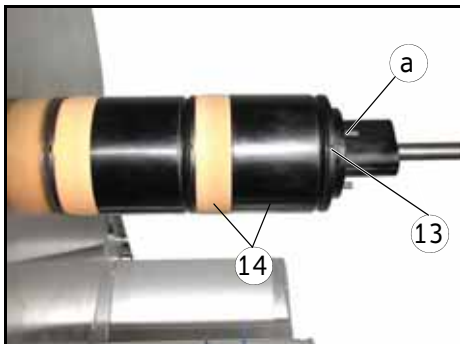


## Replacing the tension rings

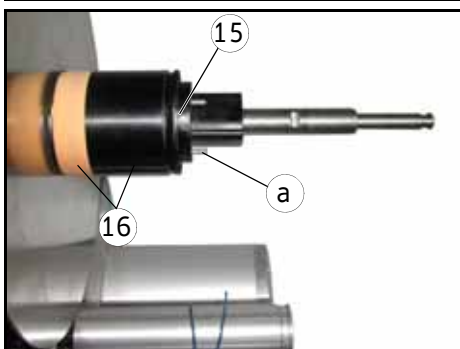
If after a long time of use tension rings **11** are worn proceed as follows when preplacing the worn rings (example with constructional width 16, vertical applicator):



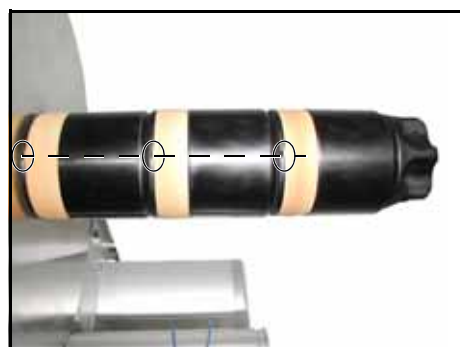
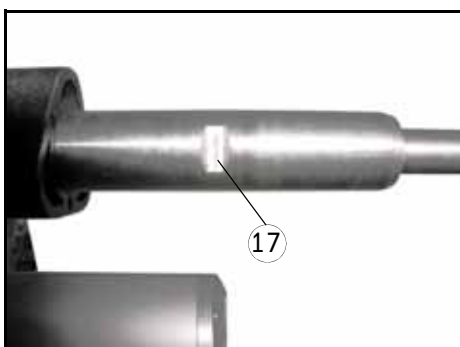
- > Remove handle **1**, as described above („Replacing the handle“).
- > Pull off parts **12**.



- > Loosen screw **13** (do not remove!).
- > Pull off parts Teile **14**.



- > Loosen screw **15** (do not remove!).
- > Pull off parts **16**.



When remounting the core sleeve in reverse order with the new tension rings make sure that the screws (**13**, **15**) are aligned exactly onto the respective flat surface **17**.

After assembling the unit completely all screws must be aligned along the same line.

**Important:** Pins **a** (three per plug-in part) are absolutely required for a proper function.

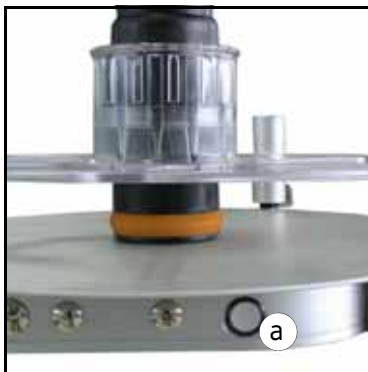
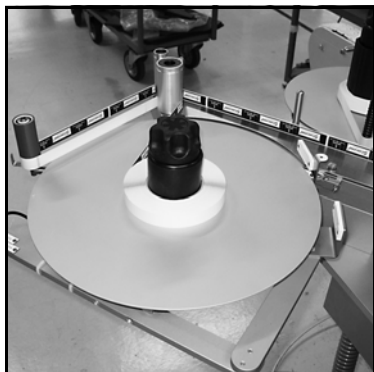
Verify correct function / reliable clamping of the unwinder after complete assembly.

## 4.1.2 Motorized unwinder – Slim line version



### CAUTION

Rotating part. Do not reach into the area of this unit when the applicator is on. There is the risk of being caught or getting entangled.



### Inserting the label web



If using the core sleeve with tension rings take note of the explanations in section 4.1.1 as of page 24.

- > Insert the label reel such that the labels reach the dispensing beak in the correct position.
- > Insert the web according to the scheme shown in sections 6.5.7 and 6.5.8. Turn the unit on/off with switch / illuminated button **a**.

### Functions of the illuminated button

There are several functions for the illuminated button **a**:

- Switching the unit on/off
- Changing the sense of rotation
- Teaching the angle sensor
- Activating the Smooth Mode
- Error indication via blink codes

For these functions see the following table, or respective sections.

Note: When applying power the unit generally is READY, i.e., switched on, the button is lighted.

Pressing the button	Action / Function
< 3s	1. Switching the unit on if it is off. 2. Resetting the unit if an error occurred (indicated via blink code; see below).
> 3s and < 10s	Switching the unit off.
> 10s and < 20s	Changing the sense of rotation
> 20s	Activating the Smooth Mode

## Teaching the angle sensor

As the case may be, e.g. in case of a new unit, you may have to teach the unit the positions of the pendulum if this is released completely and if this is moved to its maximum deflection in order to ensure a correct function and to avoid errors. For teaching the unit proceed as follows:



### DANGER

**Risk of electric shock! Disconnect all sources of supply and wait for five minutes before opening the rear cover or touching the connector pins! Electrocutation may occur.**

- > Clear the unit (no web inserted).
- > Press the illuminated button and keep it pressed while applying the power supply. Keep on pressing the button. This will blink at low frequency.
- > Push the pendulum a little more towards its release position (completely untensioned).
- > Let the illuminated button go. This will now blink at a higher frequency, i.e. in more rapid succession.
- > Now move the pendulum to its stop in the tensioned position, i.e. to its maximum deflection. Press the button briefly. This will blink again in slow succession. Thus, teaching was successful.
- > For completing the procedure disconnect the unit from mains and consequently apply power once more.

If teaching was not successful an error code will be issued (see below) and the procedure must be repeated. See as well the corresponding error messages in chapter 11.

### NOTICE

The factory-set maximum deflection of the pendulum may constructionally be decreased by a maximum of 20° since otherwise full functionality cannot be assured.

## Activating the Smooth Mode

For some applications operation of the winder (here: the motorized unwinder) is preset with too high a dynamic. For this purpose the winder can be made „more gentle“, i.e., acceleration and deceleration of the unit will be effected less roughly. For such setting proceed as follows:

- > Press the blue illuminated button and keep it pressed for more than 20 seconds. During these 20 seconds the button will blink at low frequency first and then at high frequency.
- > As soon as the illuminated button blinks at high frequency move the pendulum to its tensioned position.
- > Let go of the illuminated button.
- > Move the pendulum to its released position.
- > Press the illuminated button once more. The winder is in the Smooth Mode.

To set the winder back to normal mode go through the same steps once again.

## Error codes

Error codes, i.e., blink codes, can be acknowledged and reset by pressing the illuminated button briefly. The following codes may appear:

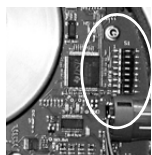
Blinking	Cause
4x	Unwinding without movement of pendulum (unwinder protection). The pendulum remains in its position too long. Check parameters 958 and 959.
5x	Measurement error which occurred e.g. on teaching the angle sensor (see above). Repeat teaching
6x	Undefined error at unwinding unit with loop chute. Switch the unit off and then on again.
7x	Winding error at loop unwinder. Too much slippage at the loop unwinder. Carry out a visual inspection. Check that mechanical parts are clean and function properly.
8x	The pendulum rests in its max. deflected position too long. Maybe the take-up sleeve is not tensioned correctly, the web is used up but stuck to the take-up sleeve, the motor is defective. Increase the rotational speed. Check parameters 950, 951, 954.
9x	Low voltage power pack. Check the power supply, as the cas may be replace the power pack.
10x	Permanent overload of the drive, power consumption is too high. Check parameters 950, 951, 954.
11x	Over temperature of the drive. Check parameters 950, 951, 954. Check that mechanical parts are clean and function properly.
12x	End of reel is signalled. Insert a new label web.
13x	Failed to determine diameter (only with CAN connection). Check parameters 947, 948, 949.
14x	Driver error issued. May be a hardware error in the in the power output stage. As the case may be exchange the main board.

## Configuring the unit with DIP switches

The DIP switches located on the main circuit board can be used for certain settings with the help of which the unit is configured. Note: This basic winder unit is not only used for the motorized unwinder but also for the motorized rewinder and the loop unwinder.


**DANGER**

**Risk of electric shock! Disconnect all sources of supply and wait for five minutes before opening the rear cover or touching the connector pins! Electrocutation may occur.**



DIP switch	Configuration
<b>Switches 1 / 2</b> 	<b>Determine the type of the unit</b> On – On: Loop unwinder / magazine filler
	On – Off: Unwinder
	Off – On: Rewinder
	Off – Off: not defined
<b>Switches 3 / 4</b> 	<b>Determine the size of the unit (Ø of the take-up disk)</b> On – On: 600 mm (23.6'')
	On – Off: 400 mm (16'') (choose this setting with the magazine filler)
	Off – On: 500 mm (19.7'')
	Off – Off: 300 mm (12'') (choose this setting with the loop unit)
<b>Switches 5 / 6</b> 	<b>Determine the core diameter of the unit</b> On – On: not defined
	On – Off: 6'' (152 mm)
	Off – On: not defined
	Off – Off: 3'' (76 mm) (choose this setting with the loop unit and with the magazine filler)
<b>Switch 7</b> 	<b>Determines the pendulum type of the unit / the size of the chute with the loop unit</b> On: Double pendulum / long chute
	Off: Single pendulum / short chute

DIP switch	Configuration
Switch 8	<p><b>Determines the pre-set sense of rotation of the unit, seen from the front side of the unit, facing to the disc / the roller</b>  <b>(Motorised unwinder: any change is to be effected with the illuminated button).</b>  <b>Motorised rewinder: See the note below</b></p> <p>On: Clockwise (choose this setting with unwinder / rewinder variant <b>R</b>, with loop unit and with magazine filler variant <b>L</b>)</p>
	<p>Off: Counterclockwise (choose this setting with unwinder / rewinder variant <b>L</b>, with loop unit and with magazine filler variant <b>R</b>)</p>

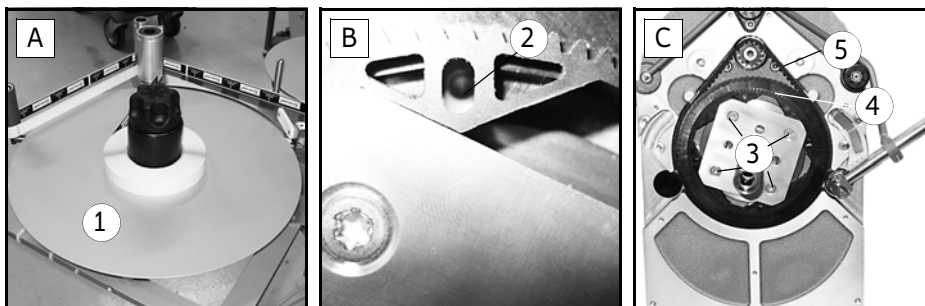
## Changing parts



**DANGER**

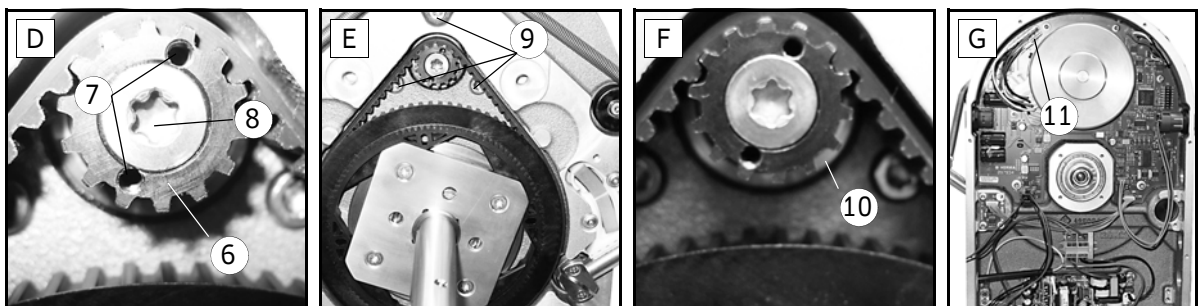
**Risk of electric shock! Disconnect all sources of supply and wait for five minutes before opening the rear cover or touching the connector pins! Electrocutation may occur.**

If you need to replace parts proceed as follows:



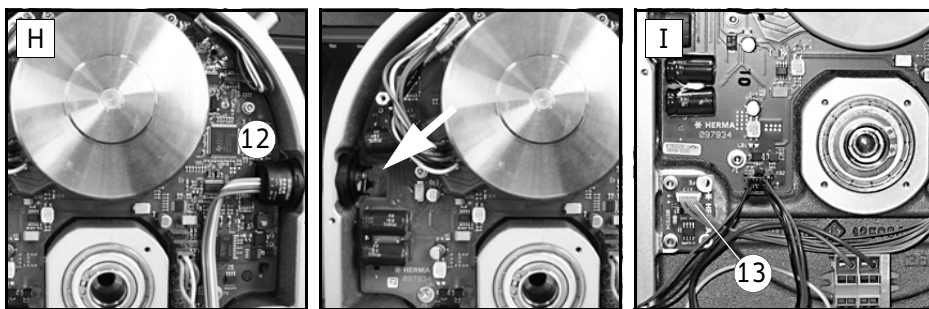
- > Remove the take-up disk **1**.
- > Lock the unit by placing a pin into hole **2** (fig. B).
- > Loosen (do not remove) screws **3** (fig. C).
- > Turn the shaft to the left. You may then remove toothed belt disk **4** and belt **5**.

If you also need to replace the circuit board you have to remove the motor first:



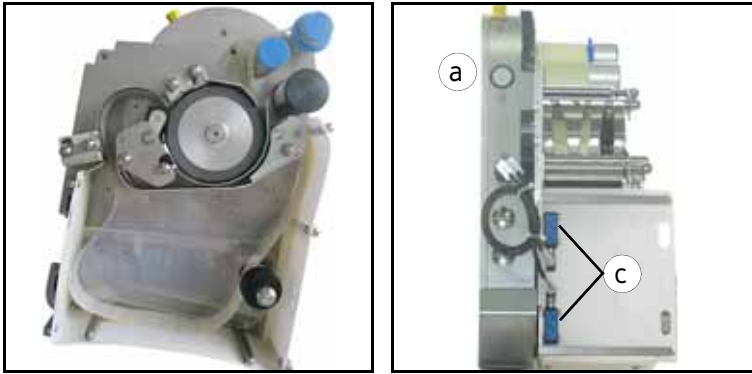
- > Gear **6** is accessible (fig. D). Place two Allen screws M3x5 (DIN912) into holes **7** (functions as pulling-off device). Remove torx screw **8** (you have to overcome a certain resistance). Make sure to hold the motor at the same time. Gear **6** can be removed.
- > Remove screws **9** (fig. E) while holding the motor.

- > Remove disk **10** (fig. **F**). The motor is now held only by plug **11** (fig. **G**). Loosen the plug and remove the motor.



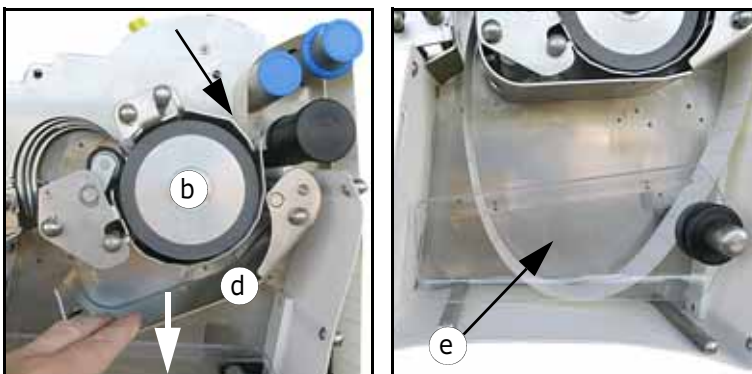
- > The circuit board can be removed carefully. To do so first lift it at the side opposite to button **12** (fig. **H**).
- > If you need to replace board **13** (fig. **I**) make sure to take note of the correct direction when inserting the new board (do not turn by 180°).

### 4.1.3 Motorized loop-type unwinder – Slim line version



#### Inserting the label web

- > Insert the label reel such that the labels reach the dispensing beak in the correct position.
- > Insert the web according to the schemes shown in section 6.5.9. Turn the unit on/off with switch / illuminated button **a**.
- > In order to thread the web with motor support (recommended) proceed as follows (the loop unit is switched off):



- > Guide the web up to the drive roller **b**.  
Make sure the two sensors **c** of the loop control are unconvered.  
Press the illuminated button **a**. this will flash in quick order.  
Press metal part **d** down, which will press the web against the drive roller and transport it into the loop unit. Keep the metal part pressed down until sufficient web is transported to be able to guide it out of the unit.  
Close metal part **d** (press upwards until it engages) and press illuminated button **a** once more. This will now light up permanently.  
If required (vertically placed version) install counter holder **e**.  
Continue threading the web into the machine.

## Functions of the illuminated button

There are several functions for the illuminated button **a**:

- Switching the unit on/off
- Error indication via blink codes

For these functions see the following table, or respective sections.

Note: When applying power the unit generally is READY, i.e., switched on, the button is lighted.



### CAUTION

Note that on applying power the drive roller will turn immediately if at that time the sensors of the loop control are uncovered. Rotation will stop automatically after a short period of time.

Pressing the button	Action / Function
< 3s	1. Switching the unit on if it is off. 2. Resetting the unit if an error occurred (indicated via blink code; see below).
> 3s und < 10s	Switching the unit off.

## Error codes

Error codes, i.e., blink codes, can be acknowledged and reset by pressing the illuminated button briefly. The following codes may appear:

Blinking	Cause
8x	Creating a loop takes too long (web break, drive roller is wrapped round with paper, too much web was fed).
9x	Low voltage power pack.
10x	Permanent overload of the drive, power consumption is too high.
11x	Over temperature of the drive.

## Adjusting the loop control



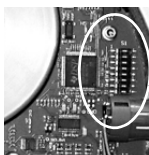
If the label material changes (e.g. from paper to transparent labels) the sensors **c** for the loop control may need adjustment. For further information see the separate manual of the sensor.

## Configuring the unit with DIP switches




**DANGER**

**Risk of electric shock! Disconnect all sources of supply and wait for five minutes before opening the rear cover or touching the connector pins! Electrocutation may occur.**

The DIP switches located on the main circuit board can be used for certain settings with the help of which the unit is configured. Note: This basic winder unit is not only used for the motorized unwinder but also for the motorized rewinder and the loop unwinder.



DIP switch	Configuration
<b>Switches 1 / 2</b> 	<b>Determine the type of the unit</b> On – On: Loop unwinder / magazine filler On – Off: Unwinder Off – On: Rewinder Off – Off: not defined
<b>Switches 3 / 4</b> 	<b>Determine the size of the unit (Ø of the take-up disk)</b> On – On: 600 mm (23.6'') On – Off: 400 mm (16'') (choose this setting with the magazine filler) Off – On: 500 mm (19.7'') Off – Off: 300 mm (12'') (choose this setting with the loop unit)
<b>Switches 5 / 6</b> 	<b>Determine the core diameter of the unit</b> On – On: not defined On – Off: 6'' (152 mm) Off – On: not defined Off – Off: 3'' (76 mm) (choose this setting with the loop unit and with the magazine filler)
<b>Switch 7</b> 	<b>Determines the pendulum type of the unit / the size of the chute with the loop unit</b> On: Double pendulum / long chute Off: Single pendulum / short chute

DIP switch	Configuration
Switch 8	<p><b>Determines the pre-set sense of rotation of the unit, seen from the front side of the unit, facing to the disc / the roller</b>  <b>(Motorised unwinder: any change is to be effected with the illuminated button).</b>  <b>Motorised rewinder: See the note below</b></p>  <p>On: Clockwise (choose this setting with unwinder / rewinder variant <b>R</b>, with loop unit and with magazine filler variant <b>L</b>)</p>
	 <p>Off: Counterclockwise (choose this setting with unwinder / rewinder variant <b>L</b>, with loop unit and with magazine filler variant <b>R</b>)</p>

## Teaching the loop unwinder

**Note:** As the case may be, e.g. in case of a new unit, you may have to teach the unit the positions of the DIP switches in order to ensure a correct function and to avoid errors. For teaching the unit proceed as follows:

- > Disconnect the unit from mains.
- > Remove the label web from the unit.
- > Press the illuminated button and keep it pressed while applying the power supply. Keep on pressing the button. This will blink at low frequency.
- > Let the illuminated button go. This will now blink at a higher frequency, i.e., in more rapid succession.
- > Press the button briefly. This will blink again in slow succession. Thus, teaching was successful.
- > For completing the procedure disconnect the unit from mains and consequently apply power once more.

If teaching was not successful an error code will be issued and the procedure must be repeated. See as well the corresponding error messages in chapter 11.



You can call up an animation in our service portal [herma.com/machines](https://herma.com/machines), item "Startup/How to?", that illustrates this procedure.

### NOTICE

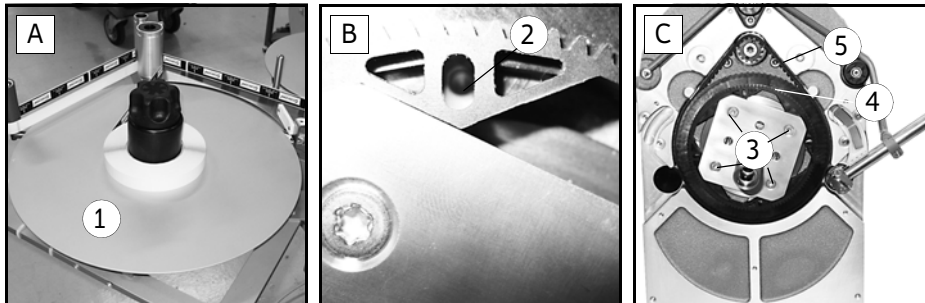
Make sure to regularly clean sensors and reflectors of the loop control.

## Changing parts



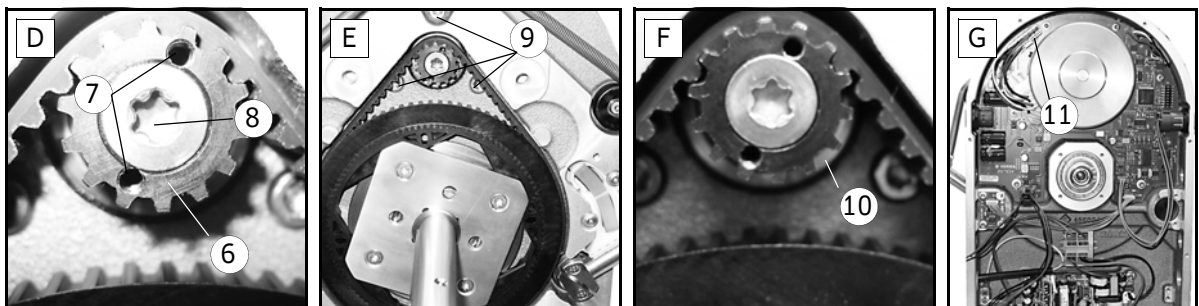
**Risk of electric shock! Disconnect all sources of supply and wait for five minutes before opening the rear cover or touching the connector pins! Electrocutation may occur.**

If you need to replace parts proceed as follows:



- > Remove the take-up disk **1**.
- > Lock the unit by placing a pin into hole **2** (fig. **B**).
- > Loosen (do not remove) screws **3** (fig. **C**).
- > Turn the shaft to the left. You may then remove toothed belt disk **4** and belt **5**.

If you also need to replace the circuit board you have to remove the motor first:



- > Gear **6** is accessible (fig. **D**). Place two Allen screws M3x5 (DIN912) into holes **7** (functions as pulling-off device). Remove torx screw **8** (you have to overcome a certain resistance). Make sure to hold the motor at the same time. Gear **6** can be removed.
- > Remove screws **9** (fig. **E**) while holding the motor.
- > Remove disk **10** (fig. **F**). The motor is now held only by plug **11** (fig. **G**). Loosen the plug and remove the motor.



- > The circuit board can be removed carefully. To do so first lift it at the side opposite to button **12** (fig. **H**).

#### 4.1.4 Label web brake

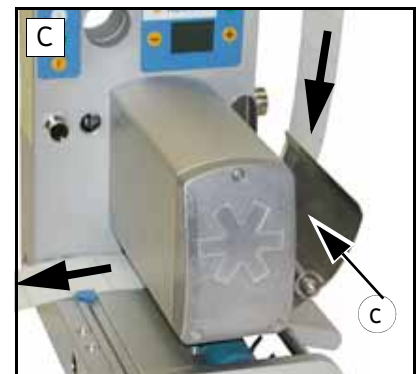
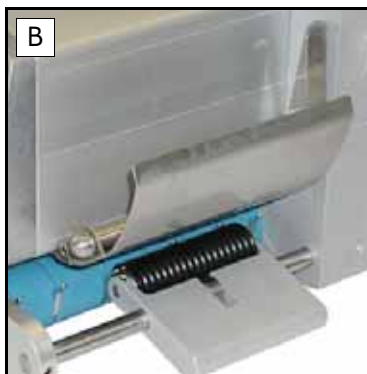
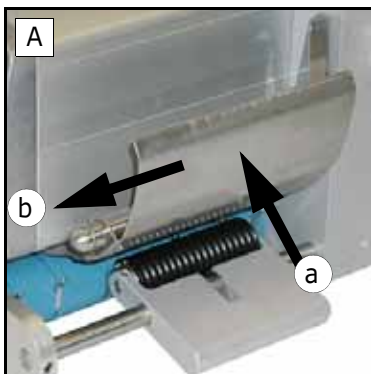


#### WARNING

Rotating part. Do not reach into the area where the feed roller draws in the web when machine is on! There is the risk of being caught or getting entangled.

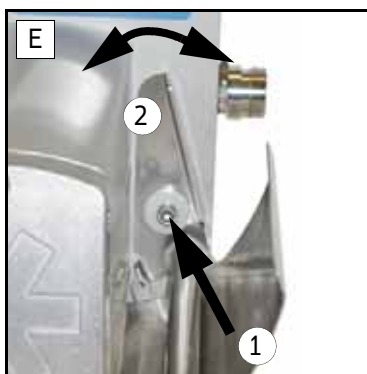
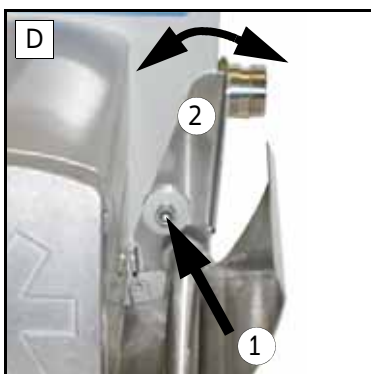


#### Inserting the label web



- > **A:** Push brake plate towards direction **a** to disengage it and at the same time towards direction **b** to loosen it (**B**).
- > **C:** Pass label web below brake plate.  
Push brake plate towards direction **c** and depress until brake plate engages.

#### Adjusting the braking pressure



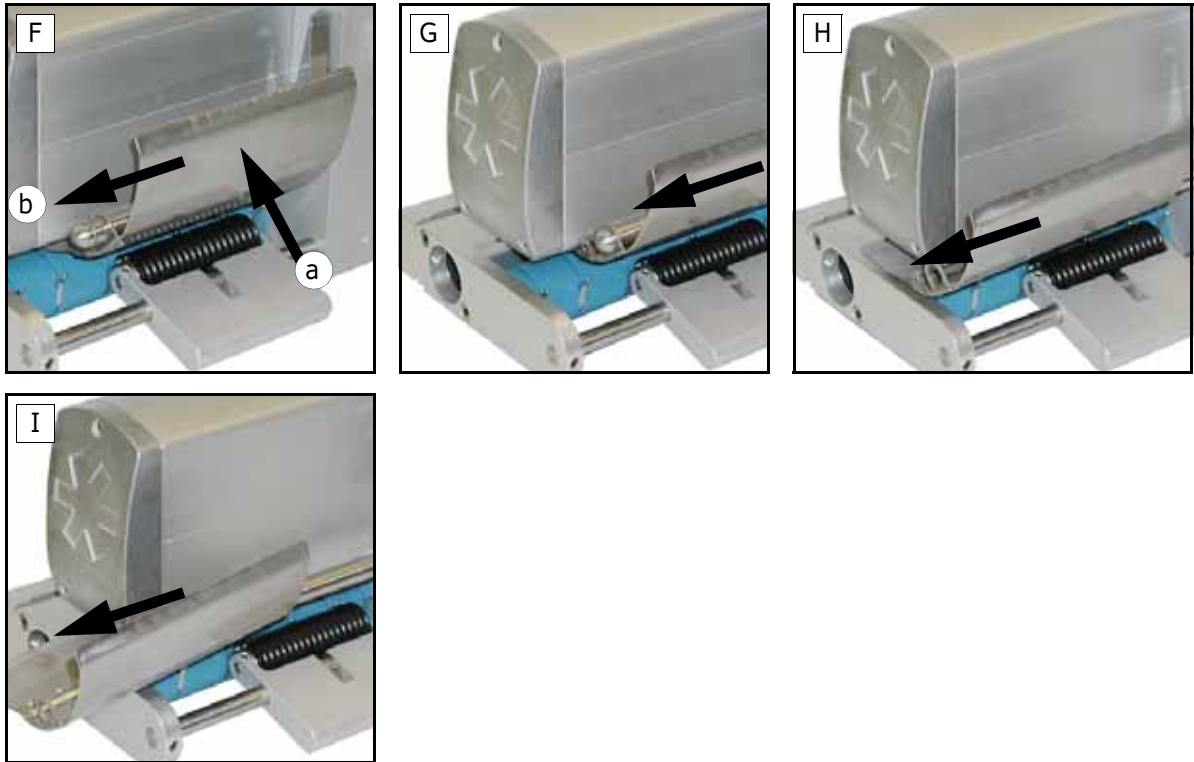
Braking pressure was factory set.  
Adjust if required as follows:

> **D/E:** Loosen screw **1**.

Turn adjusting plate **2** to the left or to the right until label web passes below the brake plate smoothly, but with perceptible resistance.

Tighten screw **1**.

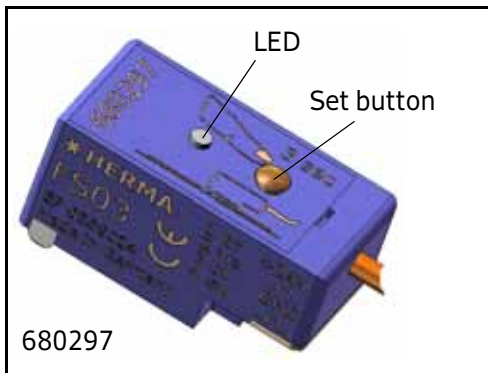
## Cleaning



> **F:** Push brake plate towards direction **a** to disengage it and at the same time towards direction **b** to loosen and fully retract it (**G-I**).

Clean brake plate. After cleaning push brake plate back to position and depress until it engages.

### 4.1.5 Label sensor FS03



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

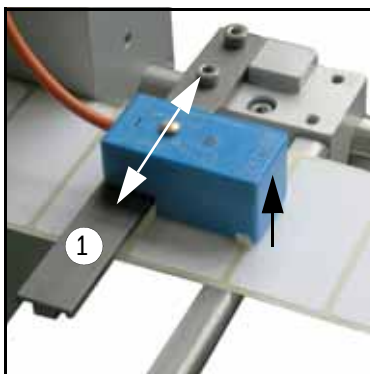
The FS03 comprises the operating modes „work mode“ and „setting mode“, described in the following.

All adjustments, if required, are effected with the help of a single set button. States, results, and signals are indicated via a LED which can take the two colors of green and red.

#### ***Work mode (normal mode)***

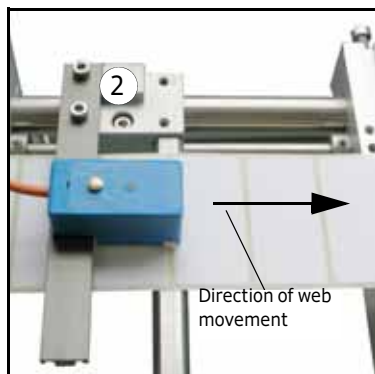
This mode is the mode for normal operation. Any adjustments have been made already (see the section „Setting mode“).

#### **Cross adjustment**



> Slightly lift sensor at the front and slide into the desired position on rail **1**.

## Positioning the label

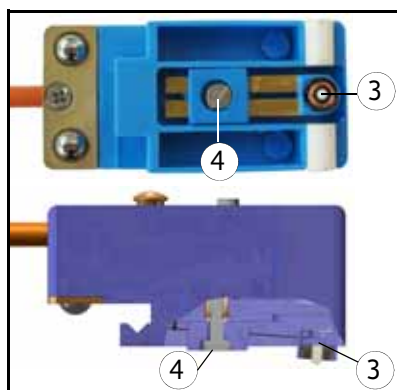


Depending on the application labels have to be peeled off completely (for suction), or a small part of the label remains attached to the backing paper (for tearing off, i.e. the product „takes“ the label), or a small part of the label is peeled off and most of it remains attached to the backing paper (for labeling with synchronous parallel motion). You can adjust the position of the label at the dispensing plate (label attachment) by positioning the sensing unit by means of holder 2 in or opposite to the direction of the label movement.

This positioning is also called „label overfeed delay“ or „stop delay“. With some configurations this delay is set via potentiometer at the applicator housing (see also section / page 100) or in the control box or even via parameter in the control program (where applicable).

The **order number** of the sensor with plug-in connector is printed on the housing.

## Replacing the sensing head



Sensing head 3 can be replaced after loosening screw 4.

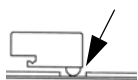
A basic adjustment is required thereafter (see „Teaching“ in section „Setting mode“).

## 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 conducting labels (metallized or aluminium-covered)). Moreover an offset can be adjusted, i.e., a little shifting of the switch point which may become necessary under challenging conditions, e.g. at very high speed.

In order to get to a certain function the set button must remain pressed for different lengths of time. If, e.g., the function for changing the label material to be sensed is to be called up the button must be pressed for at least 10 seconds and 15 seconds at the most.

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



**Note:** The buttonpress duration is reset to 0 after every end of function. The different functions are indicated via changing states of the LED.

**Remark:** The following description only refers to the sensor with material number 680297 (see imprint on the unit).

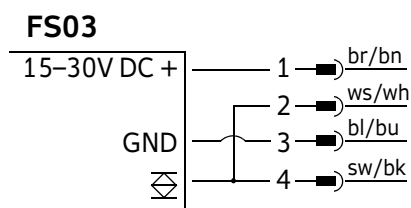
## Overview

Buttonpress	<2s	>2s, <10s	>10s, <15s	>15s, <20s	>20s
Function	Basic state	Teaching	Label material	Offset	Factory setting
LED	● (off)	☀ (on)	✱ (blinking)	● (off)	☀ (on)
End	—	after end of function	after 10s	after 10s	after end of function
Action	—	Release button	Buttonpress changes material	1x button = +1 1x button >2s = -1	Release button
Result	—	Blink code 2x = OK Blink code 4x = not successful	LED color: green = paper red = metal	Blink code at changing = offset	Blinkcode 2x

Buttonpress duration	Function triggered / activated
<2s	<b>LED is off ● , no function.</b>
>2s, <10s	<p><b>LED is on ☀ , teaching function active</b> (self-learning of backing paper thickness).</p> <p>After releasing the button a fast blinking of the LED signals the begin of the teach procedure. After end of function a blink code is shown: 2x blinking slowly (teaching successful), or 4x blinking slowly (teaching not successful).</p> <p>If the teaching was not successful the procedure must be repeated. Make sure the sensor is positioned into the gap between the labels and the subsurface is clean (no glue remainders or the like). When using a moving beak you may have to make sure that it is in extracted position.</p> <p>Note: You can call up an animation in our service portal <a href="https://herma.com/machines">herma.com/machines</a>, item "Startup/How to?", that illustrates this procedure.</p>
>10s, <15s	<p><b>LED blinks ✱ , setting the type of label</b> (paper or metal).</p> <p>Every buttonpress changes the label type.</p> <p>The label type set is indicated via the color of the LED: green = paper, red = metal</p> <p>The end of function is reached automatically 10 seconds after the last releasing of the button.</p>

Buttonpress duration	Function triggered / activated
>15s, <20s	<p><b>LED is off ● , adjusting the offset.</b></p> <p>After releasing the button a blink sequence indicates the offset currently set (the standard value for paper labels is 6, for metal labels 10).</p> <p>Press button 1x thereafter for a short time = offset +1, keep button pressed 1x for more than 2 seconds = offset -1.</p> <p>As in the beginning, after every change a blink sequence will indicate the value currently set.</p> <p>The end of function is reached automatically 10 seconds after the last releasing of the button.</p> <p>The offset must be changed only in exceptional cases, as a rule only at speeds of ~4.700"/min (120 m/min) or more. In such case the gap between the labels may not be detected reliably and the sensitivity must be adjusted. Consequently decrease the offset with very thin labels of below 50 µ and increase it with very thick labels of more than 150 µ correspondingly. Offsets can be adjusted from 1 through 20.</p>
>20s	<p><b>LED is on ☀ , return to factory setting</b></p> <p>The factory setting is: paper label, offset 6 (offset 10 with metal labels).</p> <p>After end of function (releasing the button) a blink code is shown (2x slowly).</p>

## Connection Diagram



## Technical Data

Operating voltage:	15 – 30V DC
Rated current consumption:	≤ 25mA
Output current:	max. 20mA
Output voltage low/high:	≤ 2.5V / ≥ UB - 3.5V
Temperature (operation/storage):	0 – 50°C / -20 – +80°C
Type of protection:	IP20
Protection class:	III
Protective circuit:	Short-circuit protection, inverse-polarity protection

## Label material, minimum requirements

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

Labeling speed	Width of the gap
≤ ~1.600"/min (40 m/min)	~0.08" (2 mm)
≥ ~1.600"/min, ≤ ~4.700"/min	min. ~0.1" (2,5 mm)
≥ ~4.700"/min (120 m/min)	min. ~0.12" (3,0 mm)

## CE Declaration of Conformity

HERMA GmbH  
Geschäftsbereich Maschinen  
D-70791 Filderstadt  
Germany

We hereby declare that the label sensor FS03 is developed, designed, and manufactured by us in our sole responsibility in compliance with the following directives.

EC EMC Directive 2014/30/EU

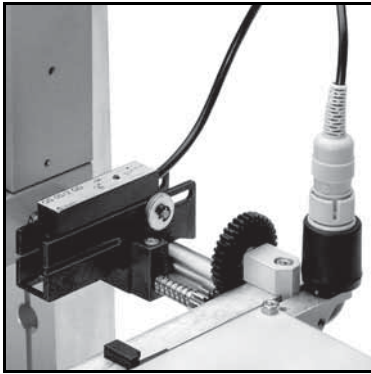
IEC 60947-5-2:2007 (Low-voltage switchgear and controlgear, Control circuit devices and switching elements - Proximity switches)

16.01.2019

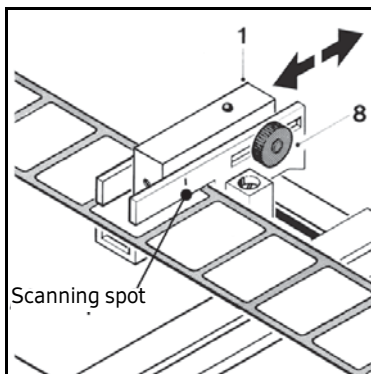


Managing director

## 4.1.6 Label sensor optoelectronic

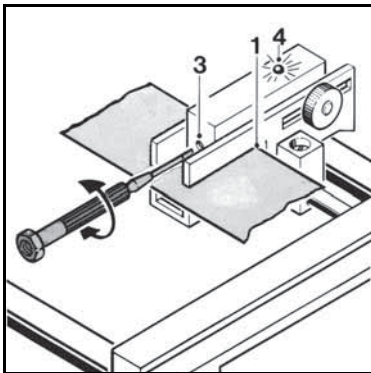


### Cross adjustment



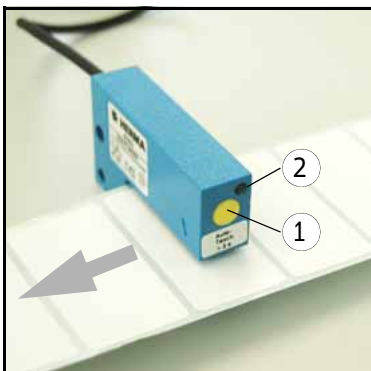
- > Loosen knurled nut **8**.
- > Move scanning spot of photoelectric cell **1** (see locating mark) over passing label web.
- > In case of round labels the scanning spot should be positioned over the label centerline.

### Switch point adjustment (sensor *without* teach function)



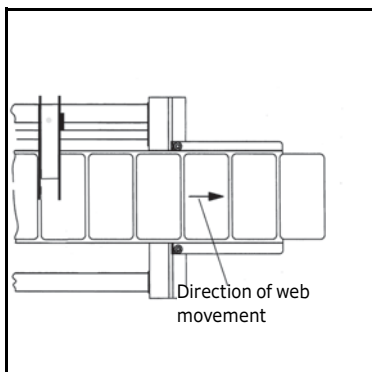
- > Turn adjusting screw **3** counterclockwise until light-emitting diode **4** goes out. (without backing paper)
- > Pass backing paper through slot of photoelectric cell **1**.
- > Turn adjusting screw **3** clockwise until light-emitting diode lights up.
- > Turn on one more circle.

### Switch point adjustment (sensor *with* teach function)



- > Position sensor on label.
- > Press button **1** for at least 2 seconds. LED **2** flashes quickly. the teaching time is started.
- > During this time move the label web for a length of at least two labels. As an alternative just move the label web back and forth during this time such that there are at least two changes between label and gap between the labels.
- > The teach procedure is completed successfully if LED **2** flashes 2x. If LED **2** flashes 4x we recommend to repeat the teaching procedure.

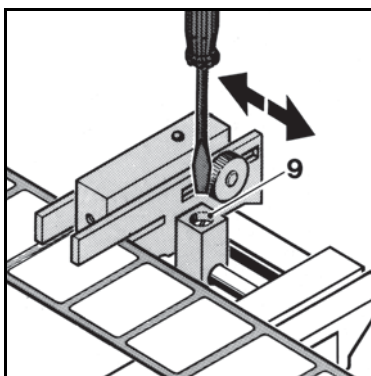
## Positioning the label



Depending on the application labels have to be peeled off completely (for suction), or a small part of the label remains attached to the backing paper (for tearing off, i.e. the product „takes“ the label), or a small part of the label is peeled off and most of it remains attached to the backing paper (for labeling with synchronous parallel motion). By changing the position of the label scanning unit the amount of label left on the backing paper can be adjusted.

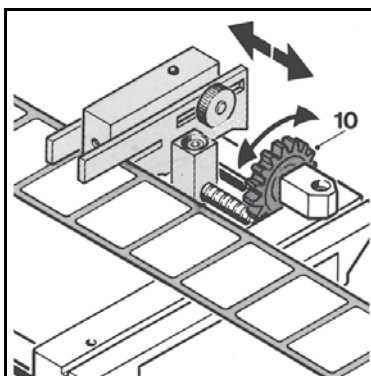
This positioning is also called „label overfeed delay“ or „stop delay“. With some configurations this delay is set via potentiometer at the applicator housing (see also section / page 100) or in the control box or even via parameter in the control program (where applicable).

### For normal/coarse adjustment



- > Loosen locking screw **9**.
- > Move the entire scanning unit to the desired position.
- > Carry out a test run.
- > Tighten locking screw **9** thereafter.

### For vernier adjustment



- > Move the entire scanning unit to the desired position by means of adjusting wheel **10**.

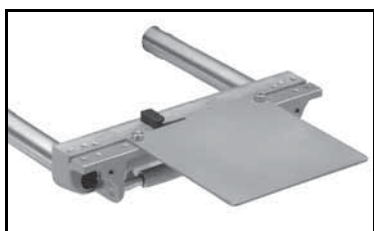
## 4.1.7 Dispensing systems



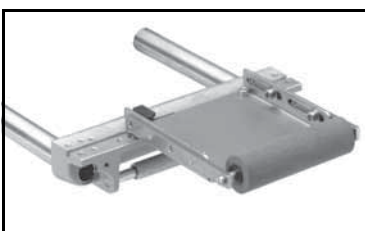
Explanations / Illustrations for threading the label web you will find in section 6.5.

### *Rigid/Straight dispensing plates*

Dispensing plate straight



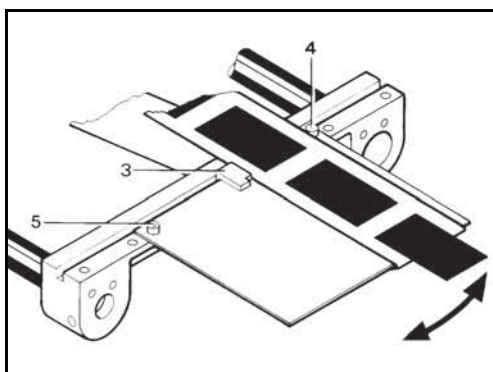
Dispensing plate straight,  
with application roller



Dispensing plate, 75° angular



### Adjusting the dispensing plate



- > Adjust paper guide **3** such that the label web sits close to screw head **4** and paper guide **3**.

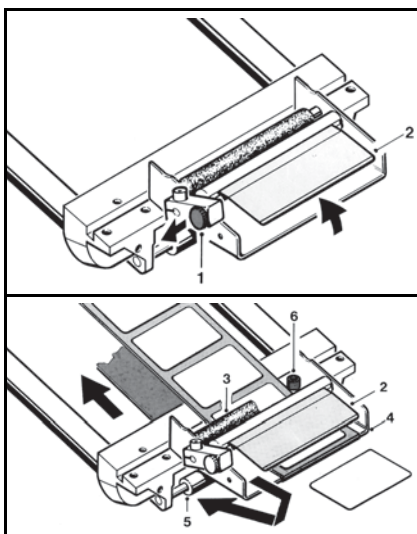
With the dispensing plate with application roller make sure the distance between application roller and dispensing plate is less than one label length.



Correct label web tracking, if any, by adjusting the plate within the play of the mounting holes of screws **4** and **5** (see arrow).

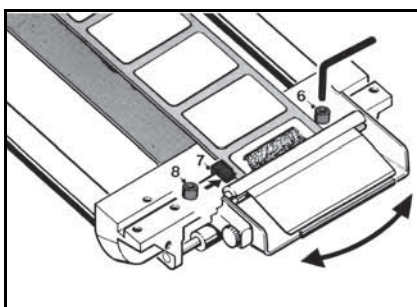
## Dispensing plate, 15° angular

### Inserting the label web



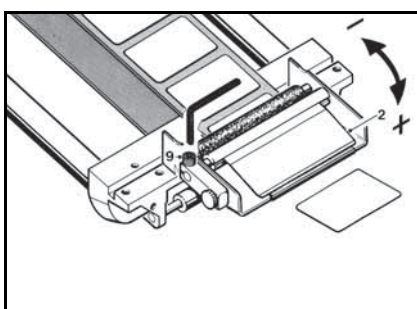
- > Pull snaplock **1**. Fold up holding-down plate **2**.
- > Pass label web below guide roller **3** and holding-down plate **2**. Run backing paper back around the dispensing plate **4** and guide roller **5**.
- > Make sure the label web is in contact with screw head **6**.

### Adjusting the dispensing plate



- > Move paper guide **7** against the label web.
- > Correct label web tracking, if any, by loosening screws **6** and **8** and adjusting the dispensing plate as desired.

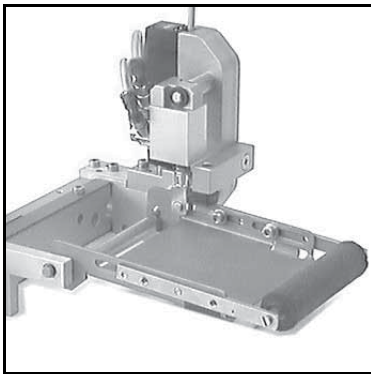
### Adjusting the hold-down pressure



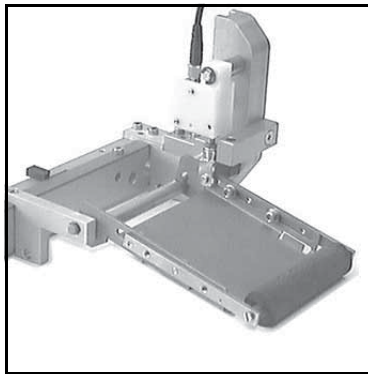
- > Loosen screw **9**.
- > Turn holding-down plate **2** down (+) or up (-) until label web passes below the braking plate smoothly but with perceptible resistance.
- > Tighten screw **9**.

## Pivot beak / Application unit

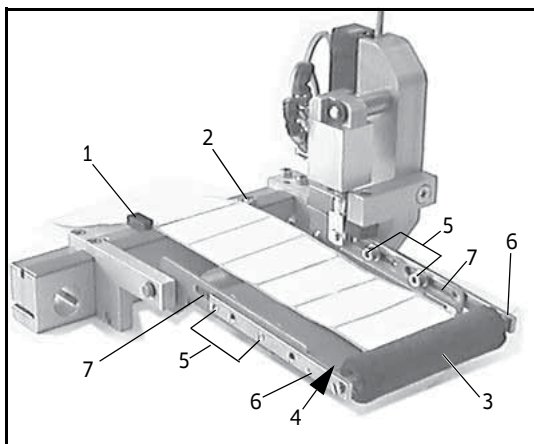
Pivot beak



Application unit

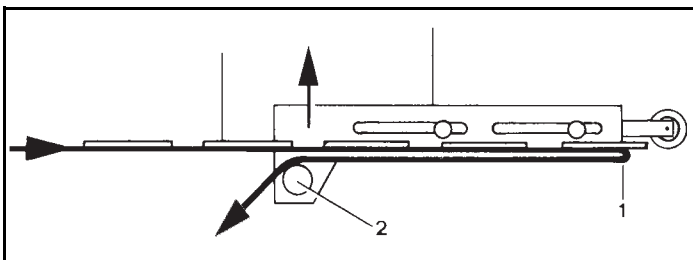


## Adjusting the pivot beak / the application unit



- > Adjust paper guide **1** such that the label web sits close to screw head **2** and paper guide **1**.
- > The distance between application roller **3** and dispensing plate **4** must be smaller than the length of one label. Adjust by loosening the four screws **5** and moving arms **6** in the elongated hole **7**.

## Cleaning



- > Remove the guide roller **2** plus axle in the direction of the arrow and clean.

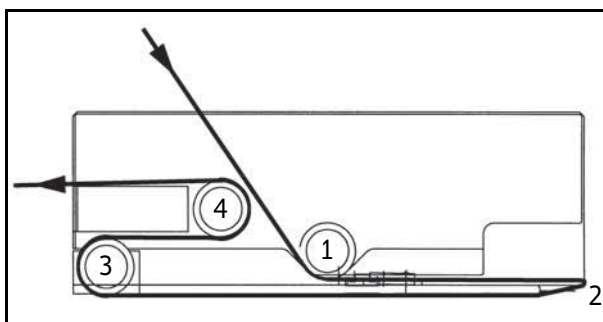
## Moving beak



### CAUTION

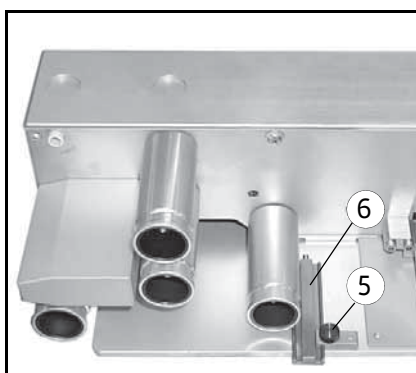
Pneumatic working pressure must not exceed 5 bar. Do not reach into the area of the unit during operation. The movement of the unit could cause injuries!

## Inserting the label web



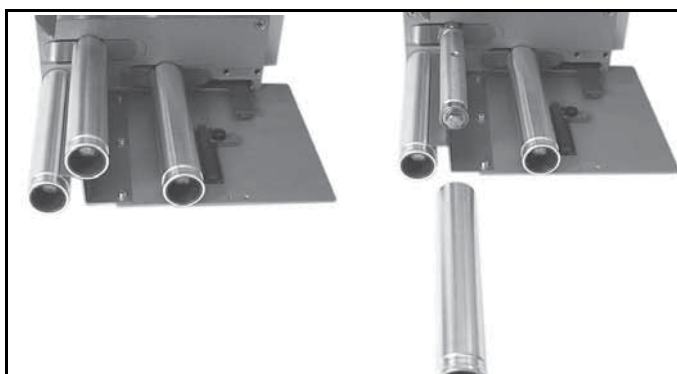
> Pass the label web around guide roller 1, towards the dispensing plate 2 and around the front edge. Run it back to the idling guide roller 3 (before going on, remove all unused labels from the backing paper from point 2 onwards). Pass the backing paper around roller 3, pull it forward again to and around the fixed guide roller 4, and run it back out again.

## Adjusting for straight label web movement



> When inserting the label web, make sure it always nearly touches the housing with one side on its way through the moving beak. Loosen screw 5 and adjust the paper guide 6 such that it keeps the web in place from the other side. Tighten screw 5.

## Cleaning



> For cleaning simply pull the guide rollers off the axles. When placing them back onto the axles, make sure to shove them past the point of resistance to make them sit on the axles tightly.

Adjust the correct position (i.e. to what extent the label is to be peeled off the backing paper when dispensed) according to the description „Positioning the label“ in section 4.1.5 or 4.1.6 (pages 41 / 46).

## 4.1.8 Transfer systems

### Telescope



One of several possible telescopes (linear units) may be used in your machine, depending on the application. These units are maintenance-free.  
Take notice of the following:



#### CAUTION

**Pneumatic working pressure must not exceed 5 bar. Do not reach into the area of the unit during operation. The movement of the unit could cause injuries!**

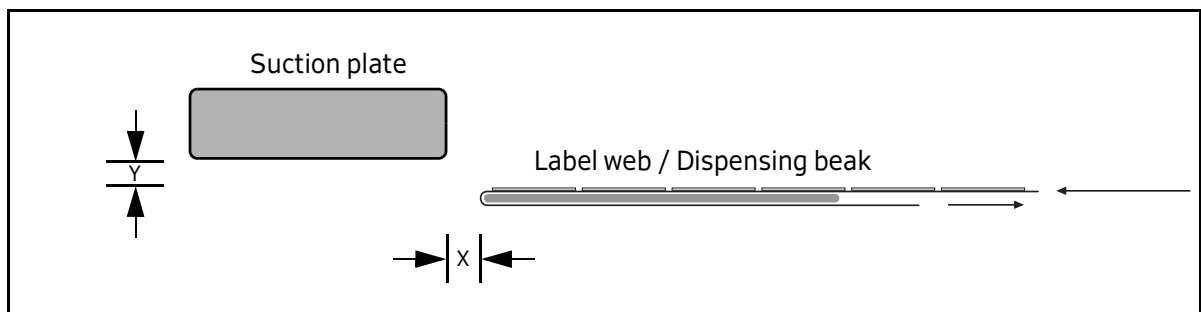
### Positioning the label on the suction plate



Labels have to be centered on the suction plate.

### Positioning the telescope

Set clearance (x) between suction plate and dispensing plate to approx. 1 mm; set clearance (y) between suction plate and label surface to approx.  $\frac{1}{10}$  to  $\frac{2}{10}$  mm (see illustration below).



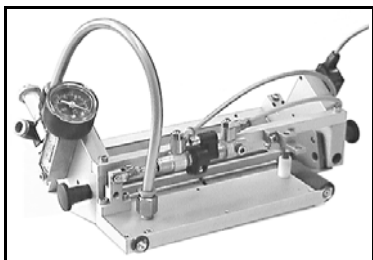
Adjustments are made – depending on the version used – by means of spindles (with or without hand cranks).

## Transverse transfer system

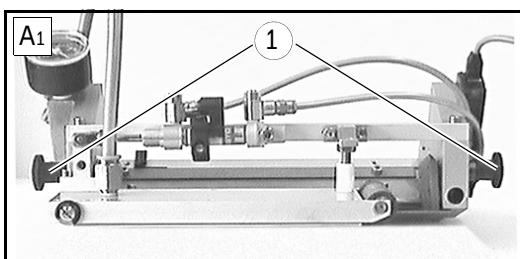


### CAUTION

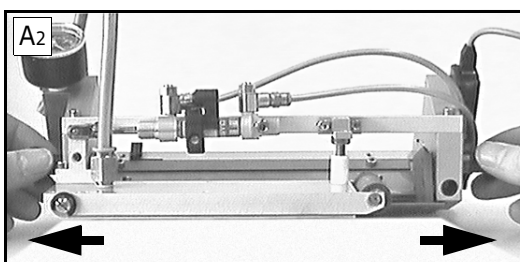
Pneumatic working pressure must not exceed 5 bar. Do not reach into the area of the unit during operation. The movement of the unit could cause injuries!



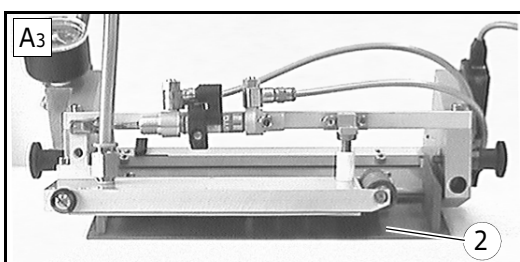
## Inserting the label web



A Unlock the dispensing plate 2 by pulling the two snap-in knobs 1 simultaneously.

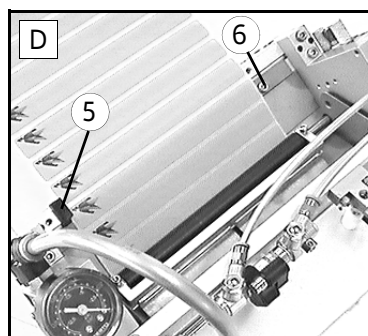
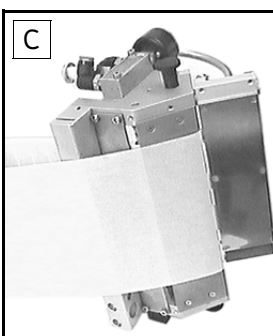
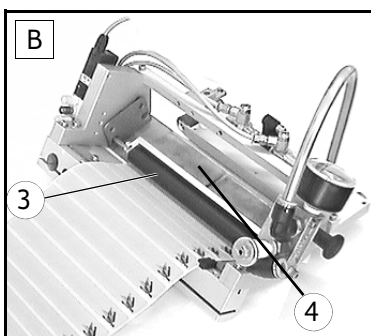


B Pass the label web below roller 3 and braking plate 4, around the dispensing plate and underneath the unit to the back (C).



C Adjust paper guide 5 such that the label web sits close to screw head 6 and paper guide 5.

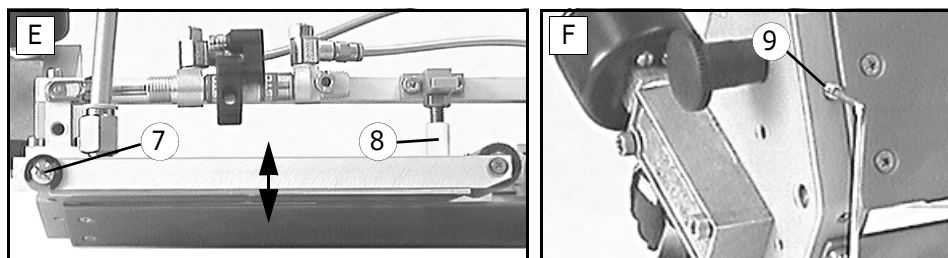
Fold up the dispensing plate until it engages.



## Adjusting the dispensing position

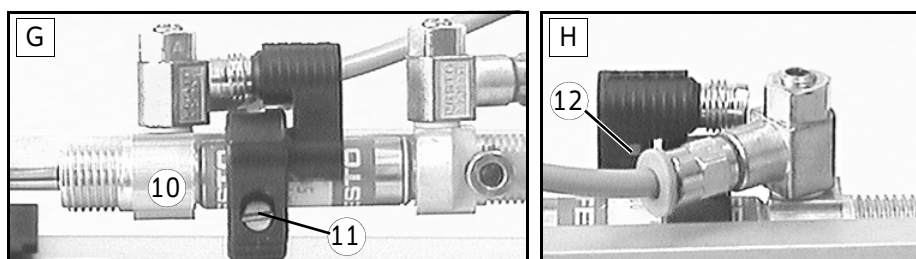
The label, in order to be ready for pick-up by the suction plate, must be fully detached from the backing paper. Adjust the correct position (i.e. to what extent the label is to be peeled off the backing paper when dispensed) according to the description in section „Positioning the label“ in section 4.1.5 or 4.1.6 (pages 41 / 46).

## Positioning the suction plate



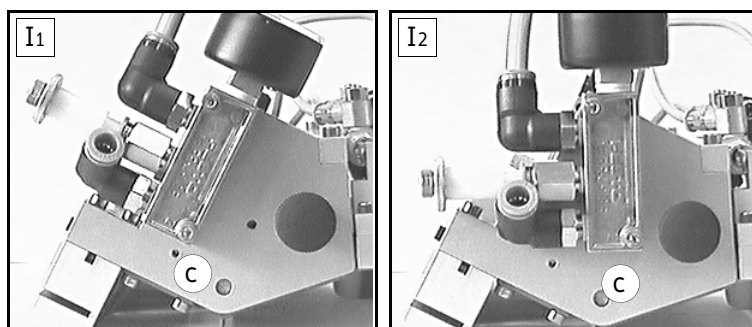
- E You have to adjust the position of the suction plate only if you use different label material. Determine the vertical distance between dispensing plate and suction plate with the help of eccentric bolt **7**. Any variation in height with the help of the eccentric bolt you can then compensate with stop **8** such that the distance between dispensing plate and suction plate is the same all over the length of the suction plate. The distance, however, should be as small as possible. To carry out adjustments with eccentric bolt **7** you first have to loosen screw **9** on the bottom of the unit (fig. F).

## Adjusting the proximity switch



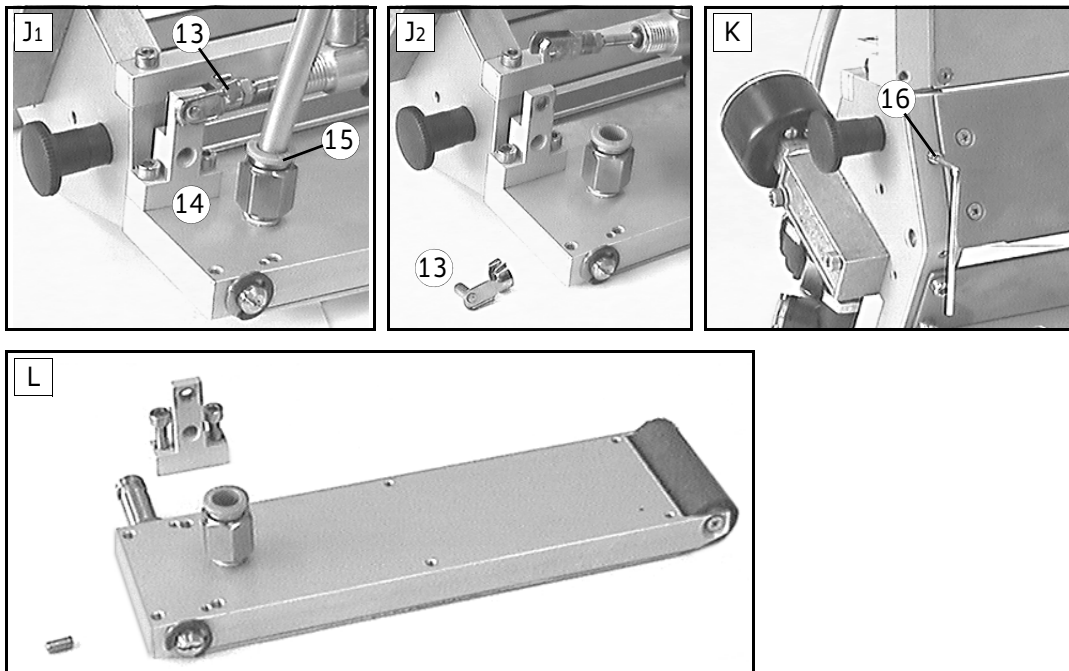
- G In case of a height adjustment of the suction plate (see above) the distance covered by the cylinder **10** changes. This may require readjusting the proximity switch. This switch should respond (LED **12** (fig. H) lights up), just before (approx. 2 mm) the suction plate gets in contact with stop **8** (fig. E). Check the switching point of the proximity switch after any height adjustment and move the switch, if necessary, after loosening screw **11**.

## Positioning the pressure indicator



- I You can mount the pressure indicator in two different positions to ensure best readability. Fix the unit in position **c** or **d**.

## Changing the suction plate



### J – K

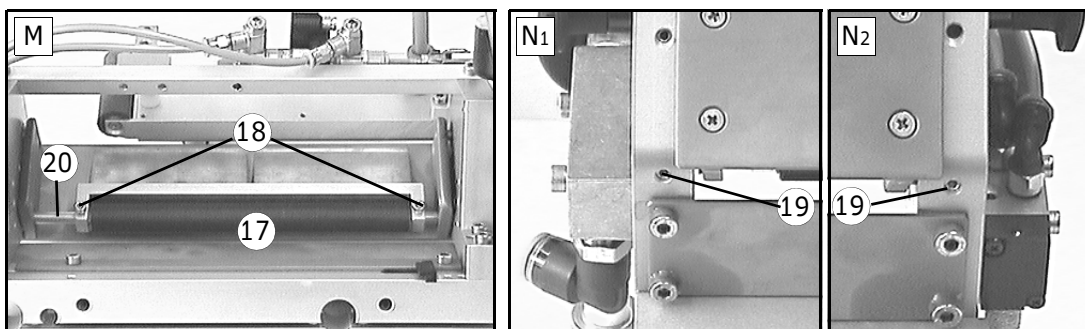
- > Remove pneumatic hose from the suction plate. For this purpose press the blue collar **15** when pulling.
- > Remove bolt **13** to loosen the cylinder from holder **14**.
- > Loosen screw **16** at the bottom.
- > Remove the suction plate.

### L

- > Remove holder **14** from the suction plate.

Mount holder **14** onto the new suction plate and mount the plate in reverse order. Position the new suction plate as described above.

## Cleaning



### M – N

- > Clean roller **17** if required. For disassembling loosen screws **18** of the braking plate holder and screws **19** on the bottom to take out axle **20**.

Make sure to adjust the braking plate pressure when reassembling such that the label web is felt to pass freely but against perceptible resistance.

Clean the suction plate if required.

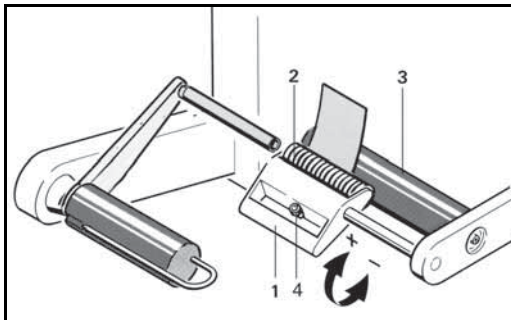
### 4.1.9 Drive/Transport roller



#### WARNING

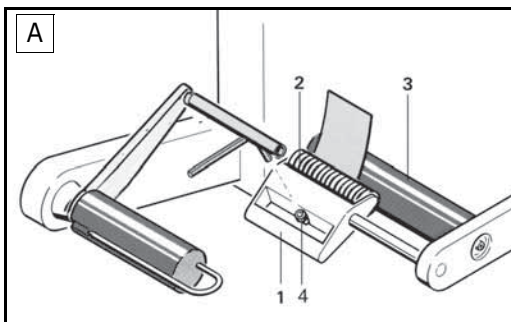
Rotating part. Do not reach into the area where the feed roller draws in the web when machine is on! There is the risk of being caught or getting entangled.

### Inserting the backing paper



- > Push the lever with the handle **1** in the direction of the arrow (+).
- > Overcome the resistance felt until pressure roller **2** is free.
- > Pass the backing paper between the feed roller **3** and pressure roller **2** and place against the wall of the housing.
- > Swing lever in arrow direction (-) as far as possible; you will hear the pressure roller engage..

### Adjusting the contact pressure



- > Adjust contact pressure such that the backing paper is firmly held between feed roller **3** and pressure roller **2**.
- > To do this loosen screw **4** in the stop **1**, adjust the contact pressure and firmly tighten the screw again.
- > With wide backing paper slide pressure roller **2** on the axle to the center of the web.



The contact pressure is determined by the position of the stop **1**. If pressure roller **2** only slightly runs past the dead center of the feed roller **3** this results in a high contact pressure; if the distance of movement is longer, contact pressure is lower.

#### NOTICE

Open the clamping lever at the transport roller of the applicator if it is not used for several days to prevent the roller from getting sticky.

### Cleaning

- > **A:** Loosen screw in stop **4**. Feed unit becomes disengaged.  
Clean pressure roller **2** and feed roller **3**.  
After reassembling readjust the contact pressure.

### 4.1.10 Standard rewinder

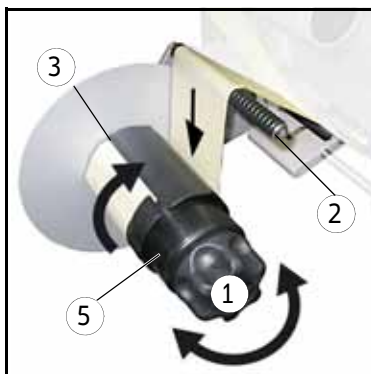


#### CAUTION

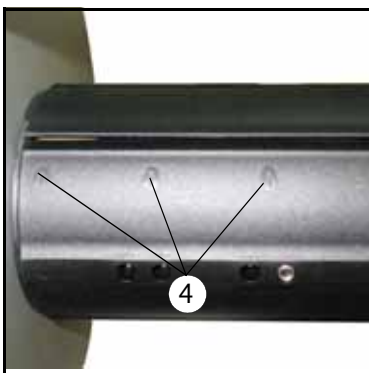
Rotating part. Do not reach into the area of this unit when the applicator is on. There is the risk of being caught or getting entangled.



### Inserting the backing paper

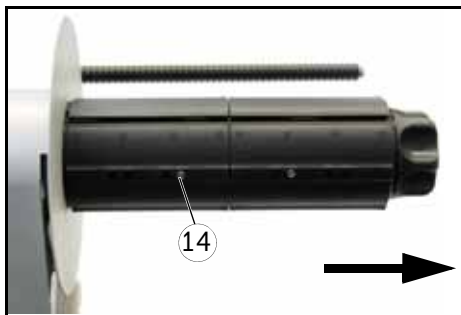


- > Turn handle **1** completely to the left (maximum of five steps) to unclamp the unit.
- > Run backing paper around bar **2**.
- > Run backing paper around the take-up roll and insert into slit **3**. The backing paper should be inserted on a length of approx. 3" / 8 cm at least. Correct direction is indicated with arrows **4**.
- > Turn handle **1** completely to the right (maximum of five steps) to make sure the backing paper is clamped with the highest possible force. This is required to ensure easy removal of the wound-up backing paper.
- > Tighten the web by turning take-up roll **5**.

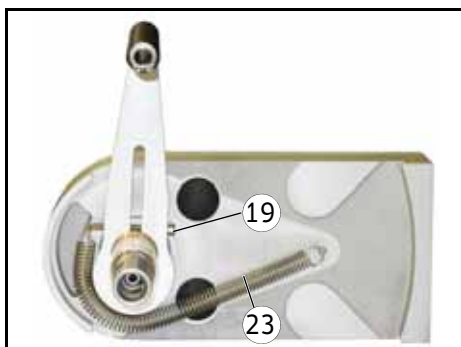


## Basic adjustment of the lever

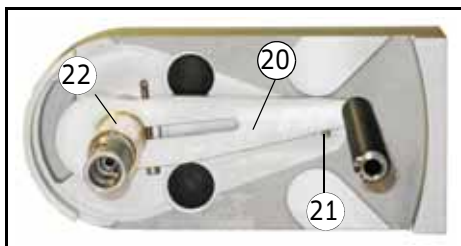
If after a very long time of use rewinding does not function reliably anymore proceed as follows when effecting the basic adjustment:



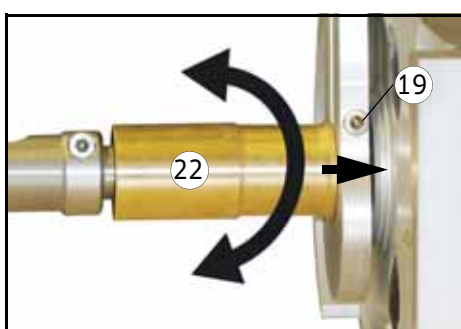
- > Remove take-up roll (roll including disk) after loosening screw **14**.



- > Unhook spring **23**.
- > Loosen screw **19** and clamping screw **18** (do not remove!).



- > Deflect lever **20** up to bolt **21** (where the spring is hooked onto).



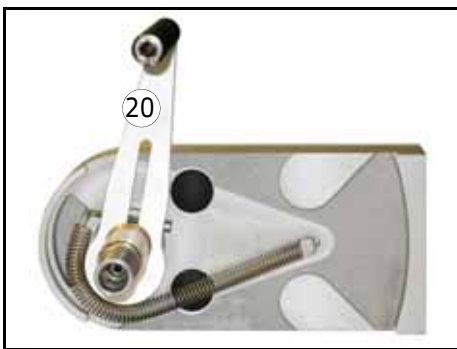
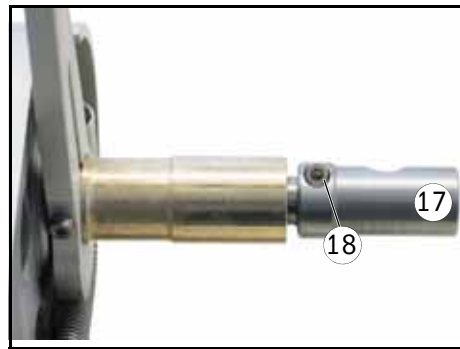
- > Turn sleeve **22** until lever **20** axially sits close to the housing.
- > Put on screw **19**.
- > Verify that lever **20** can be moved freely in the entire swivel range. If required correct the axial position of the lever (position a little more in the opposite direction, i.e. with a slightly greater distance to the housing).
- > Hook on spring **23**.



> Deflect lever **20** widely. Tighten clamping screw **18** slightly (not completely) such that the lever remains deflected after letting go but still can be turned manually. Make sure at the same time that clamping piece **17** is fixed on the shaft without play.



Fully tighten screw **25**, slowly loosen it thereafter until lever **20** is deflected approx. 45° (see following figure). So not change screw **25** thereafter.

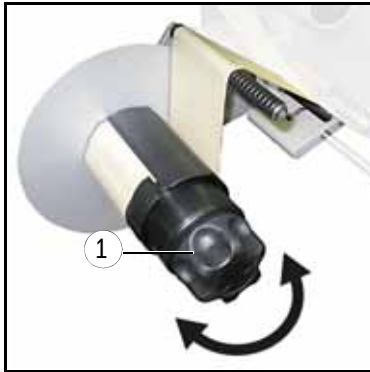


Position lever **20** manually into a position of approx. 80° – 85° with respect to the basic unit. Put on clamping screw **18** completely.

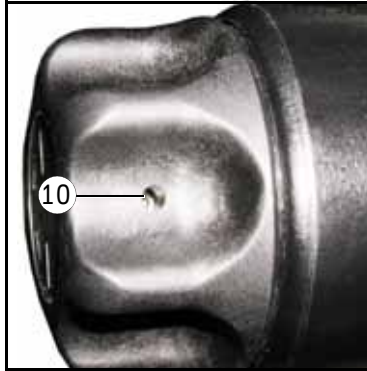
If you deflect and let go of the lever several times after having adjusted it this way it must stand still when guided back (not letting go from a deflected position) at a position of max. 90°.

## Replacing the handle

If after a very long time of use clamping of the backing paper with handle **1** does not function properly anymore proceed as follows when preplacing a worn handle:

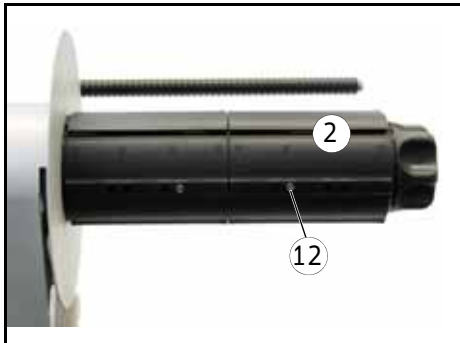


- > Turn handle **1** completely to the left (maximum of five steps) to unclamp the unit and make screw **10** accessible. Loosen screw **10** (do not remove!), retract the handle, insert new handle and fasten screw **10** afterwards.

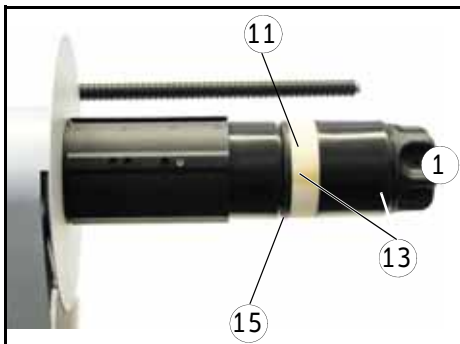


## Replacing the tension rings

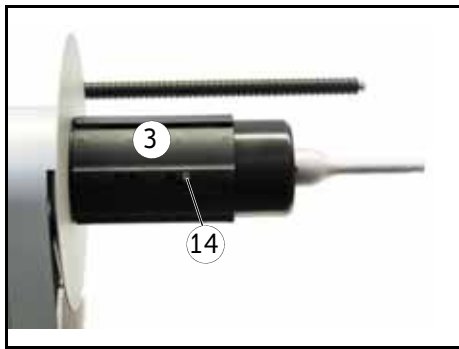
If after a very long time of use tension rings **11** are worn proceed as follows when preplacing the worn rings (example with constructional width 24):



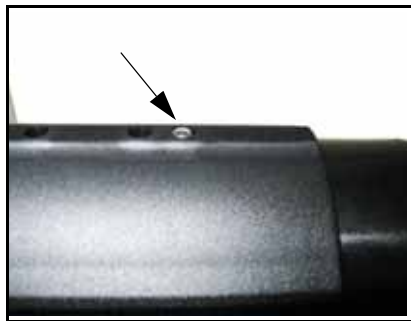
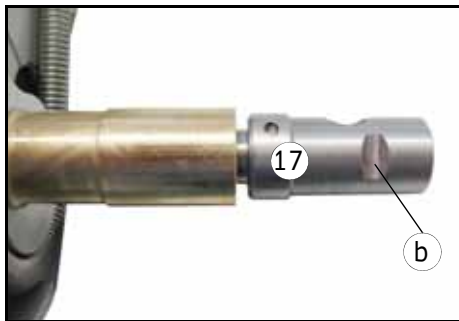
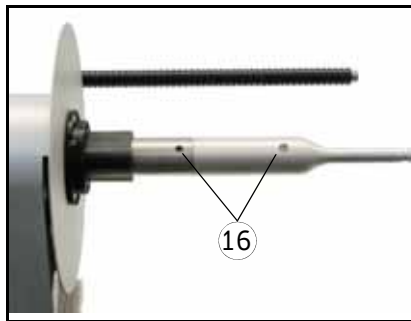
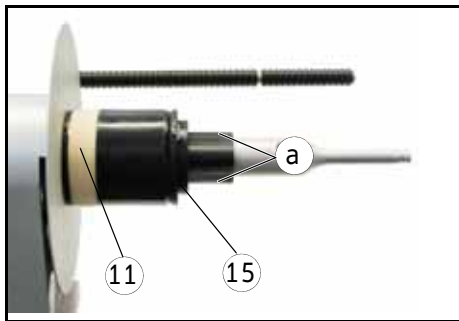
- > Remove sleeve **2** after removing screw **12**.



- > Remove handle **1** as described above („Replacing the handle“).
- > Pull off parts **13**.



- > Remove sleeve **3** after removing screw **14**.
- > Pull off remaining parts.



When remounting the core sleeve in reverse order with the new tension rings make sure that the screws (**12, 14**) together with the plug-in parts **15** (with pins) are aligned exactly onto the respective holes **16**.

Moreover, screw **14** (the one closer to the disk) must be aligned exactly onto flat surface **b** on clamping piece **17**.

After assembling the unit completely the screws (**12, 14**) must be flush with the sleeves.

**Important:** Pins **a** (three per plug-in part) are absolutely required for a proper function.

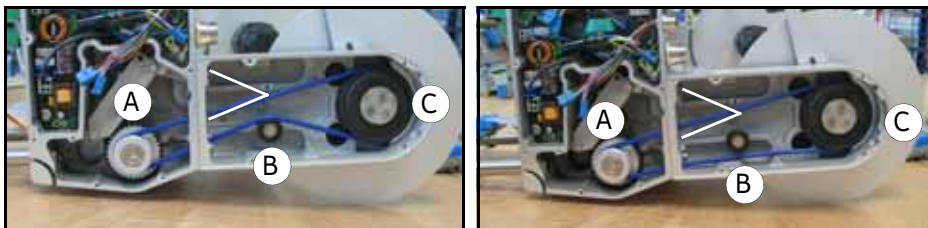
Verify correct function / reliable clamping of the rewinder after complete assembly.

## Replacing the round belt

**DANGER**

**Risk of electric shock! Disconnect all sources of supply and wait for five minutes before opening the rear cover or touching the connector pins! Electrocutation may occur.**

Take the belt from tension pulley **B**, then from roller **A** and subsequently from roller **C**.  
When remounting proceed in reverse order.

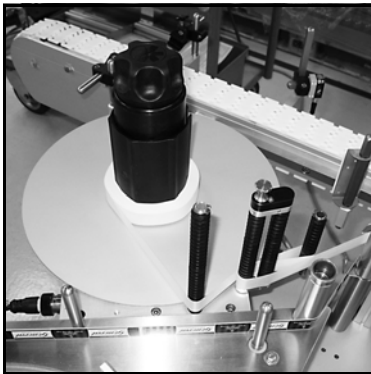


#### 4.1.11 Motorized rewriter – Slim line version



##### CAUTION

Rotating part. Do not reach into the area of this unit when the applicator is on. There is the risk of being caught or getting entangled.



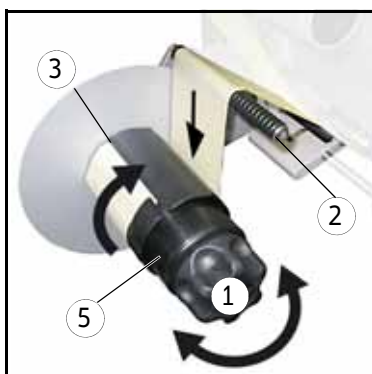
#### Switching the unit off

- > You can switch off the drive with the help of switch 5 at the side of the housing.

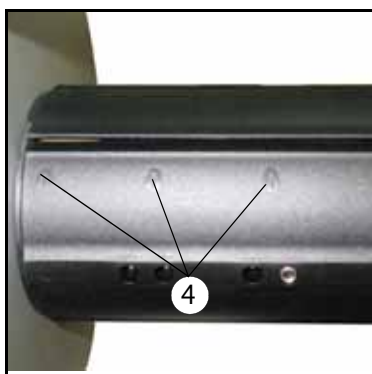


## Inserting the backing paper

For an overview see also sections 6.5.7 and 6.5.8.



- > Turn handle **1** completely to the left (maximum of five steps) to unclamp the unit.
- > Run backing paper around bar **2**.
- > Run backing paper around the take-up roll and insert into slit **3**. The backing paper should be inserted on a length of approx. 3" / 8 cm at least. Correct direction is indicated with arrows **4**.
- > Turn handle **1** completely to the right (maximum of five steps) to make sure the backing paper is clamped with the highest possible force. This is required to ensure easy removal of the wound-up backing paper.
- > Tighten the web by turning take-up roll **5**.

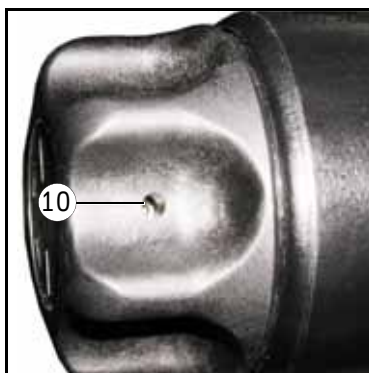


## Replacing the handle

If after a very long time of use clamping of the backing paper with handle **1** does not function properly anymore proceed as follows when preplacing a worn handle:

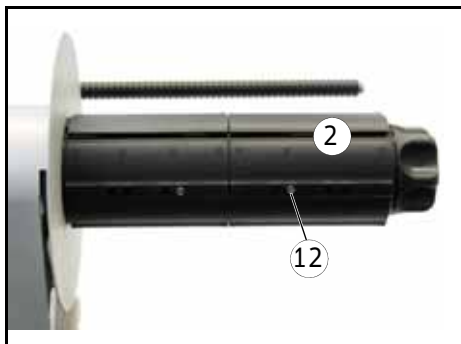


- > Turn handle **1** completely to the left (maximum of five steps) to unclamp the unit and make screw **10** accessible. Loosen screw **10** (do not remove!), retract the handle, insert new handle and fasten screw **10** afterwards.

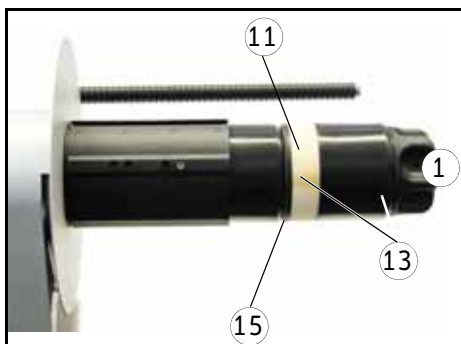


## Replacing the tension rings

If after a very long time of use tension rings **11** are worn proceed as follows when preplacing the worn rings (example with constructional width 24):

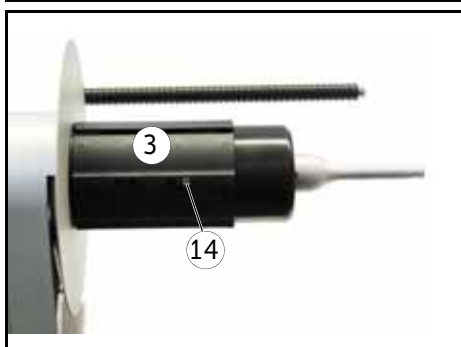


> Remove sleeve **2** after removing screw **12**.



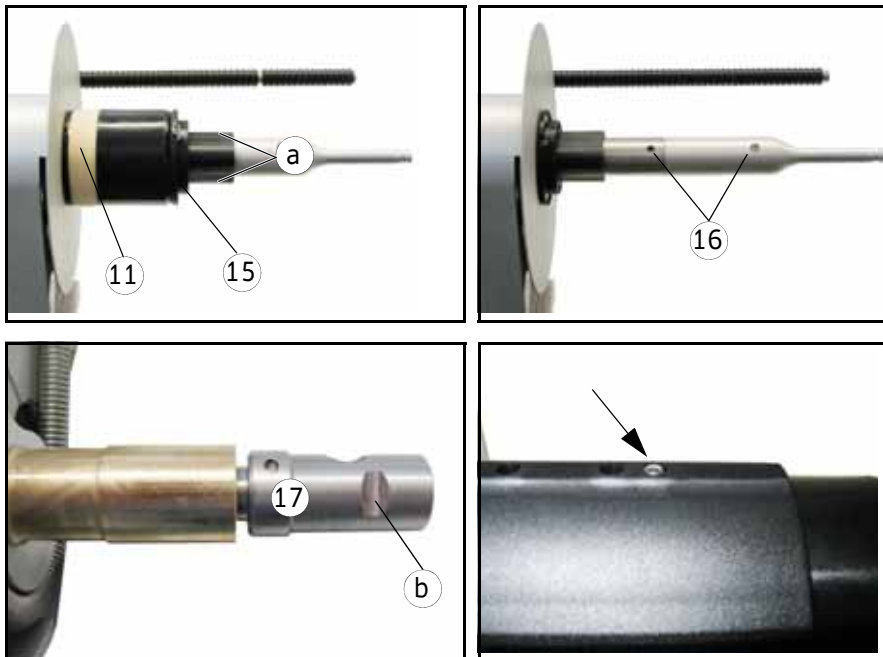
> Remove handle **1** as described above („Replacing the handle“).

> Pull off parts **13**.



> Remove sleeve **3** after removing screw **14**.

> Pull off remaining parts.



When remounting the core sleeve in reverse order with the new tension rings make sure that the screws (**12, 14**) together with the plug-in parts **15** (with pins) are aligned exactly onto the respective holes **16**.

Moreover, screw **14** (the one closer to the disk) must be aligned exactly onto flat surface **b** on clamping piece **17**.

After assembling the unit completely the screws (**12, 14**) must be flush with the sleeves.

**Important:** Pins **a** (three per plug-in part) are absolutely required for a proper function.

Verify correct function / reliable clamping of the rewinder after complete assembly.


## Functions of the illuminated button

There are several functions for the illuminated button **a**:

- Switching the unit on/off
- Teaching the angle sensor
- Error indication via blink codes

For these functions see the following table, or respective sections.

**Note:** When applying power the unit generally is READY, i.e., switched on, the button is lighted.

 **CAUTION** Note that on applying power the rewinder will turn immediately if at that time no backing paper is inserted. Rotation will stop automatically after a short period of time.

Pressing the button	Action / Function
< 3s	<ol style="list-style-type: none"> <li>1. Switching the unit on if it is off.</li> <li>2. Resetting the unit if an error occurred (indicated via blink code; see below).</li> </ol>
> 3s und < 10s	Switching the unit off.

## Teaching the angle sensor

As the case may be, e.g. in case of a new unit, you may have to teach the unit the positions of the pendulum if this is released completely and if this is moved to its maximum deflection in order to ensure a correct function and to avoid errors. For teaching the unit proceed as follows:

- > Disconnect the unit from mains.
- > Clear the unit (no web inserted).
- > Press the illuminated button and keep it pressed while applying the power supply. Keep on pressing the button. This will blink at low frequency.
- > Push the pendulum a little more towards its release position (completeley untensioned).
- > Let the illuminated button go. This will now blink at a higher frequency, i.e., in more rapid succession.
- > Now move the pendulum to its stop in the tensioned position , i.e., to its maximum deflection. Press the button briefly. This will blink again in slow succession. Thus, teaching was successful.
- > For completing the procedure disconnect the unit from mains and consequently apply power once more.

If teaching was not successful an error code will be issued (see below) and the procedure must be repeated.

**NOTICE**

The factory-set maximum deflection of the pendulum may constructionally be decreased by a maximum of 20° since otherwise full functionality cannot be assured.

## Error code

Error codes, i.e., blink codes, can be acknowledged and reset by pressing the illuminated button briefly. The following codes may appear:

Blinking	Cause
5x	Measurement error which occurred e.g. on teaching the angle sensor (see above). Repeat teaching
7x	Winding error at loop unwinder. Too much slippage at the loop unwinder. Carry out a visual inspection. Check that mechanical parts are clean and function properly.
8x	The pendulum rests in untensioned position too long. Maybe web break or the rewinder is not fast enough.
9x	Low voltage power pack. Check the power supply, as the cas may be replace the power pack.
10x	Permanent overload of the drive, power consumption is too high. Check parameters 950, 951,954.
11x	Over temperature of the drive. Check parameters 950, 951,954. Check that mechanical parts are clean and function properly.
13x	Failed to determine diameter (only with CAN connection). Check parameters 947, 948, 949.
14x	Driver error issued. May be a hardware error in the in the power output stage. As the case may be exchange the main board.

**NOTICE**

If you change the sense of rotation of the rewinder via DIP switch 8 the change will come into effect only after teaching the angle sensor once again (see above).

Furthermore, after having changed the sense of rotation the freewheel **1** has to be turned by 180°! Make sure when remounting is is aligned horizontally to make sure the cover can be closed.



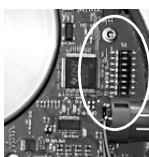
## Configuring the unit with DIP switches









**DANGER**

**Risk of electric shock! Disconnect all sources of supply and wait for five minutes before opening the rear cover or touching the connector pins! Electrocutation may occur.**

The DIP switches located on the main circuit board can be used for certain settings with the help of which the unit is configured. Note: This basic winder unit is not only used for the motorized unwinder but also for the motorized rewinder and the loop unwinder.



DIP switch	Configuration
Switches 1 / 2	<b>Determine the type of the unit</b>
	On – On: Loop unwinder / magazine filler
	On – Off: Unwinder
	Off – On: Rewinder
	Off – Off: not defined
Switches 3 / 4	<b>Determine the size of the unit (Ø of the take-up disk)</b>
	On – On: 600 mm (23.6'')
	On – Off: 400 mm (16'') (choose this setting with the magazine filler)
	Off – On: 500 mm (19.7'')
	Off – Off: 300 mm (12'') (choose this setting with the loop unit)
Switches 5 / 6	<b>Determine the core diameter of the unit</b>
	On – On: not defined
	On – Off: 6'' (152 mm)

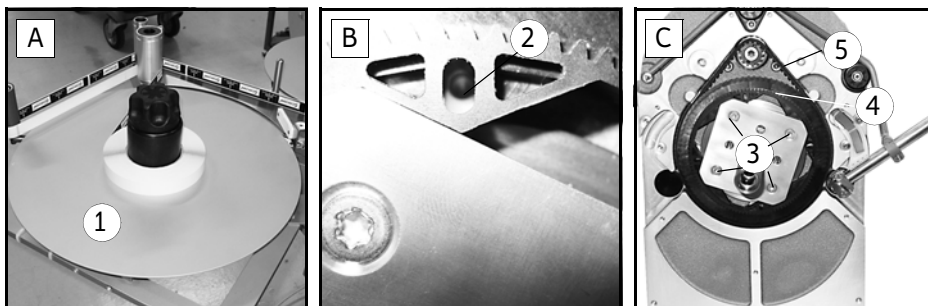
DIP switch	Configuration
	Off – On: not defined
	Off – Off: 3" (76 mm) (choose this setting with the loop unit and with the magazine filler)
Switch 7 	<b>Determines the pendulum type of the unit / the size of the chute with the loop unit</b> On: Double pendulum / long chute
	Off: Single pendulum / short chute
Switch 8 	<b>Determines the pre-set sense of rotation of the unit, seen from the front side of the unit, facing to the disc / the roller</b> <b>(Motorised unwinder: any change is to be effected with the illuminated button).</b> <b>Motorised rewinder: See the note below</b> On: Clockwise (choose this setting with unwinder / rewinder variant <b>R</b> , with loop unit and with magazine filler variant <b>L</b> )
	Off: Counterclockwise (choose this setting with unwinder / rewinder variant <b>L</b> , with loop unit and with magazine filler variant <b>R</b> )

## Changing parts



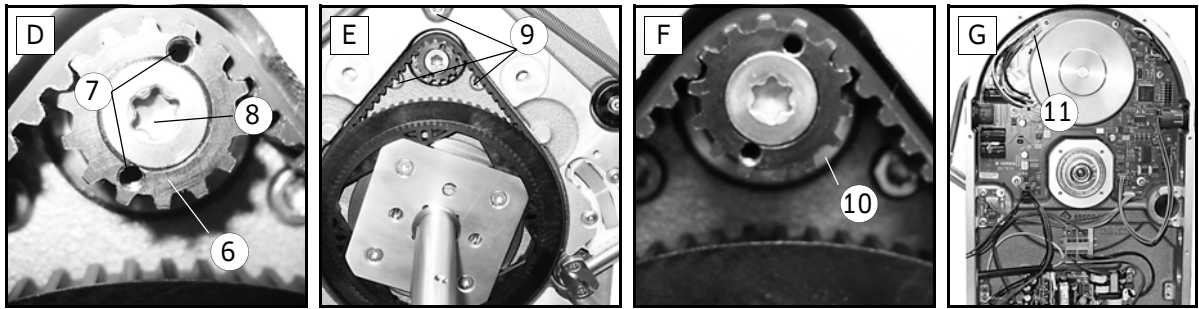
**Risk of electric shock! Disconnect all sources of supply and wait for five minutes before opening the rear cover or touching the connector pins! Electrocutation may occur.**

If you need to replace parts proceed as follows:

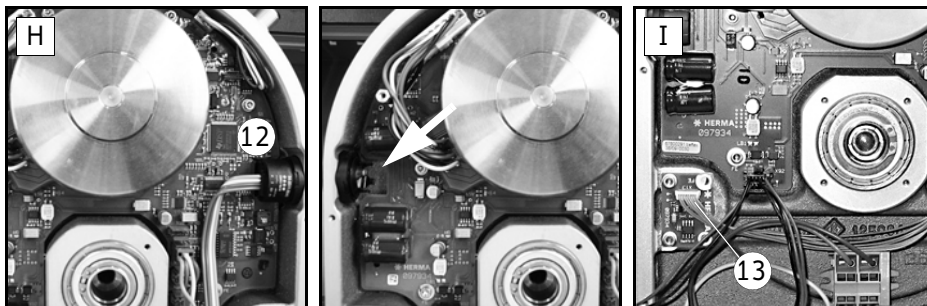


- > Remove the take-up disk **1**.
- > Lock the unit by placing a pin into hole **2** (fig. **B**).
- > Loosen (do not remove) screws **3** (fig. **C**).
- > Turn the shaft to the left. You may then remove toothed belt disk **4** and belt **5**.

If you also need to replace the circuit board you have to remove the motor first:



- > Gear **6** is accessible (fig. **D**). Place two Allen screws M3x5 (DIN912) into holes **7** (functions as pulling-off device). Remove torx screw **8** (you have to overcome a certain resistance). Make sure to hold the motor at the same time. Gear **6** can be removed.
- > Remove screws **9** (fig. **E**) while holding the motor.
- > Remove disk **10** (fig. **F**). The motor is now held only by plug **11** (fig. **G**). Loosen the plug and remove the motor.



- > The circuit board can be removed carefully. To do so first lift it at the side opposite to button **12** (fig. **H**).
- > If you need to replace board **13** (fig. **I**) make sure to take note of the correct direction when inserting the new board (do not turn by 180°).

## 5 Technical Data



**Warning!** This device may cause radio interference in residential areas; in such case the operating company may be obliged to take appropriate measures.

**HERMA 400** applicators are factory-tested prior to shipment and ready to operate. They come with basic adjustments.

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

Power supply / Line voltage	Wide range input 100V AC ... 240V AC $\pm 10\%$ , 50 Hz ... 60 Hz
Max. power consumption	400 W + n times 100W (n=number of motorized winder units)
Leakage current, according to EN 60335-1	110VAC: <0.35 mA 150VAC: <0.5 mA 230VAC: <0.7 mA
Fuse protection in the applicator	2x T 3.15 A type TR5
Operating temperature range	+32°F ... 104°F (+0°C ... +40°C)
Storage and transport temperature	-4°F ... 176°F (-20°C ... +80°C)
Maximum installation elevation with nominal data	2.500 m above mean sea level
Maximum permissible relative humidity	35% ... 85%, free of condensation
Sound pressure level in operation at working place	max. 75dB(A)
Type of protection	IP66
Output capability	250 mA (nominal), short circuit-proof, = maximum load over all outputs
Safety class	I; Class 2 peripherals may be connected

Diameter label reel	Standard: <b>12"</b> (300 mm) Maximum: 16" (400 mm, optional)
Core diameter	Standard: <b>3"</b> (76 mm)
Constructional variants	For right-hand and left-hand operation
Dimensions	Customer-specific; see section 5.1 below for examples

Weight	Customer-specific; see section 5.1 below for examples
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Winder system SlimLine		
Max. reel width for reel diameter of	16": 12.6" (400 mm: 320 mm) 20": 7.8" (500 mm: 200 mm) 23.6": 6.3" (600 mm: 160 mm)	
Max. unwinding speed for core diameter of	3" : 394 ft/min (120 m/min) 6" : 492 ft/min (150 m/min)	

Further applicator data you can find on the type label on the cover of this manual.

**NOTICE**

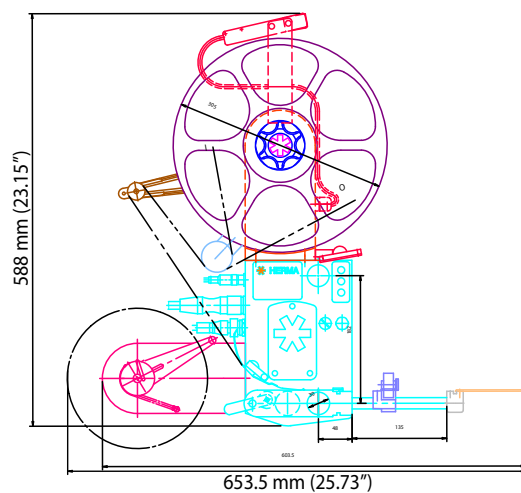
Under extreme operational conditions, maybe e.g. with model [HERMA 400 Premium](#), above-mentioned ranges are subject to restrictions that cannot be defined exactly. In case of an overload the applicator may switch off automatically.

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

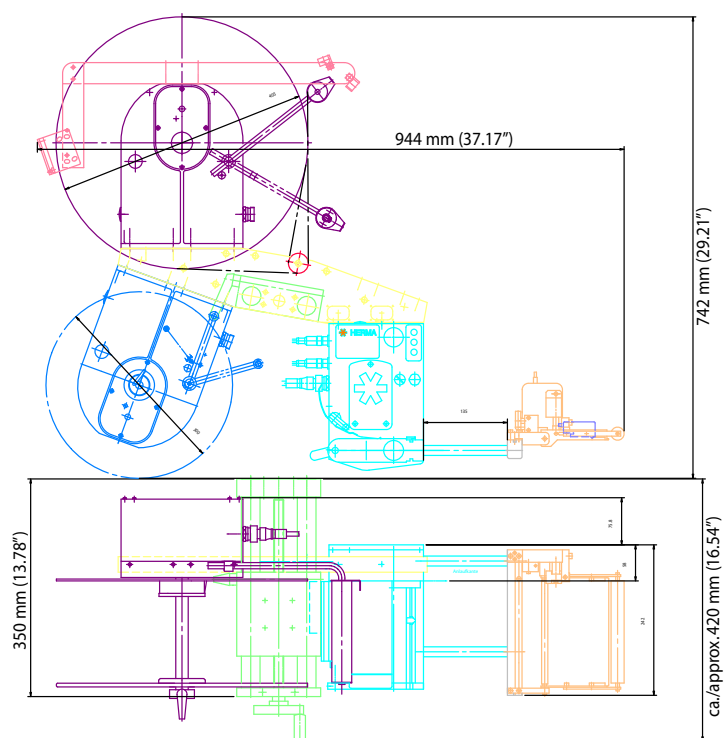
**NOTICE**

Unused outputs must be insulated before putting into operation.

## 5.1 Dimensions / weight (configuration examples)





Weight: approx. 35 lb (16 kg)



Weight: approx. 66 lb (30 kg)

## 5.2 Inputs / outputs (X10) (option, standard signals)

This optional connector provides inputs/outputs to the external control (e.g. PLC).

X10	Designation	I/O	Description	Color	→97941
PIN					
1	Led3	out	  LED function key (printer status)	brown	X22.8
2	Gnd	i/o	Ground (all voltages DC)	blue	X22.2
3	Ready	out	Applicator ready	white	X22.4
4	End	out	End of reel	green	X22.7
5	Dim	out	Diminishing reel	pink	X22.5
6	On <sup>†</sup>	in	Applicator ON (1-active)	yellow	X22.3
7	Fault	out	Error applicator (incl. web break)	black	X22.6
8	Stopdelay*	in	0-10V stop delay	grey	X23.4
9	Adc+10V	out	+10V DC for analog inputs	red	X23.1
10	Speed*	in	0-10V speed	violet	X23.3
11	Startdelay*	in	0-10V start delay	greypink	X23.5
12	Ack	in	Reset error	redblue	X22.1





**Risk of electric shock! Disconnect all sources of supply and wait for five minutes before opening the rear cover or touching the connector pins! Electrocutation may occur.**

\* Note: Put pin to ground, if not used.

<sup>†</sup> Note: Functionality active only if jumper „Remote“ (see wiring diagram) is set.

## 5.3 Inputs / outputs (X19) (option, extended signals)



This optional connector provides inputs/outputs to the external control (e.g. PLC).

X19	Designation	I/O	Description	Color	→97941
PIN					
1	+24V	out	Power supply (<150mA)	brown	X31.9
2	Gnd	i/o	Ground (all voltages DC)	blue	X31.2
3	X29.2	in	User defined	white	X29.2
4	Feed**	in	Manual feed 	green	X31.5
5	Stop	i/o	Label sensor (end of transport)	pink	X31.4
6	Start <sup>††</sup>	in	Start of labeling 	yellow	X21.4
7	X29.4	in	User defined	black	X29.4
8	S3	out	Key S3 „function“	grey	X31.6
9	Lock <sup>††</sup>	in	Lock labeling start (1-active)	red	X31.10
10	No_Label	out	Missing label on web	violet	X31.7
11	Feeding	out	Label transport running	greypink	X31.3
12	S2**	out	Key S2 „manual feed “	redblue	X31.8



### DANGER

**Risk of electric shock! Disconnect all sources of supply and wait for five minutes before opening the rear cover or touching the connector pins! Electrocutation may occur.**

**\*\* Note:** Jumper „Feed“ is not set: Without control via PLC, Pin 12 and Pin 4 must be bridged in order to activate the function of the manual feed key.  
When using an external control the functionality of the manual feed key  must be realized via a corresponding logic.  
Jumper „Feed“ is set: Manual feed is possible via the key  as well as externally.

**†† Note:** START (6) possible only if LOCK (9) not active.

### NOTICE

For the appropriate pin assignment of further connections, please refer to the separate wiring diagram.



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# 6 Transport, installation, storage and connection

## WARNING

Never stand or walk under suspended loads! Swinging or falling parts may lead to injury or a risk to life.

Before transporting the applicator, disconnect it from the mains supply.

## 6.1 Transporting the applicator

When you transport the applicator/the machine using a forklift/pallet truck, note the following requirements:

### WARNING

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

Note the safety regulations for transporting and lifting heavy loads. The driver of the forklift/pallet truck must have the appropriate qualification.

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

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

### CAUTION

When transporting the applicator with the label roll installed the roll could fall down during transport . Remove the roll of labels when transporting the applicator. Otherwise this could lead to injuries.

## 6.2 Installing the applicator

### DANGER

Never store or use flammable substances in the vicinity of this applicator. Flammable substances may catch fire and cause explosions causing serious injury or death.

The applicator must not be used in explosive atmospheres.

### WARNING

If the applicator is not properly mounted and fixed it could become loose when switched on. Mount the applicator appropriately before supplying energy. Otherwise this could lead to serious injury.

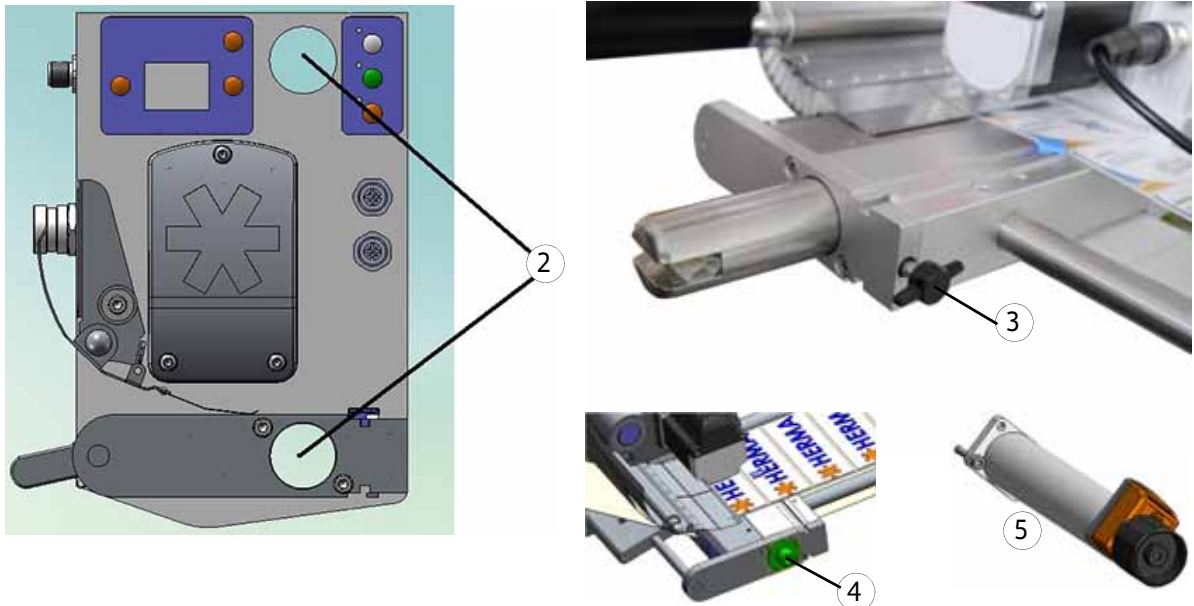
If you should notice damage due to transport when you unpack the machine inform your HERMA sales office immediately.

**⚠ WARNING**

Only use the machine in dry areas.

Mount the applicator appropriately before supplying energy.

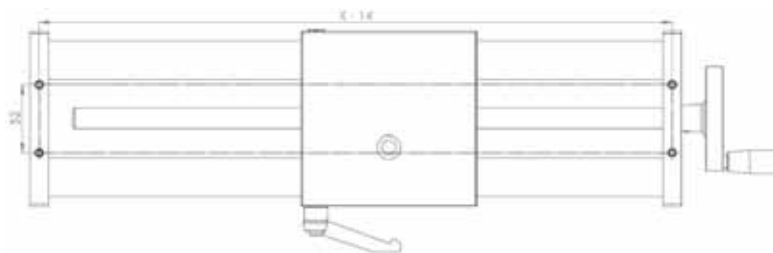
If persons that were not properly instructed for using the applicator various risks may occur. Installation/removal shall only be performed by trained specialists when the applicator is disconnected from the mains supply. Mount the applicator appropriately before supplying energy and put any protective covers back on.



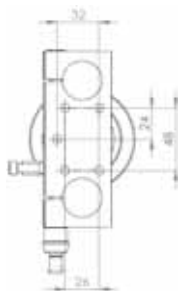
Mount the applicator using the two mounting holes for round rods (2), Ø 30 mm, hole spacing: 182 mm.

Secure the mounting system appropriately on the rods, e.g. using a locking screw (3), a washer (4) or the optional fine-adjustment device (5).

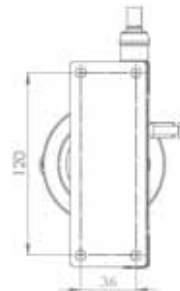
For information on fixing the applicator to various take-up systems see the following illustrations and information:



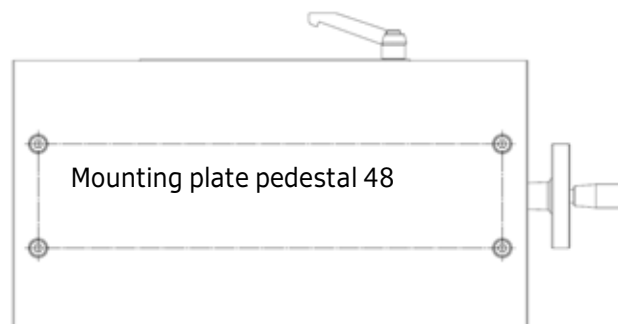
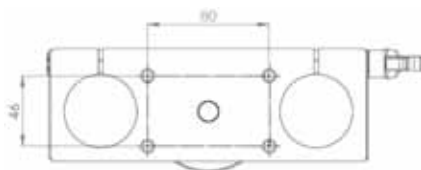
Pedestal 30 horizontal. Fix with 4 x M6. 4 x M6 provided by customer.



Pedestal 30 with short leg.  
Fix with 5 x M6.  
5 x M6 provided by customer



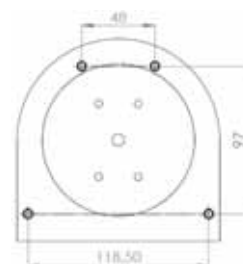
Pedestal 30 with long leg.  
Fix with 4 x M8.  
4 x through holes for M8 provided by customer



Pedestal 48. Fix with 4 x M8. 4 x M8 provided by customer



Adjusting bar.  
Fix with 2 x M6 and 1x M10.  
2 x M6 and through holes for M10 provided by customer



Adjusting disc.  
Fix with 4 x M6.  
4 x M6 provided by customer

## 6.3 Storing the applicator

- > Never store the applicator outdoors, where it is exposed to the impact of weather conditions.
- > Store the applicator in a dry and dust-free environment.
- > Never expose the applicator to aggressive media.

## 6.4 Electrical connection



### DANGER

**Risk of electric shock. 110-240 Volts may be present.**

Work on electrical parts of the system must be performed only by trained electricians! If the insulation is damaged, switch off the voltage supply immediately and have the system repaired by a trained electrician! Keep moisture away from electrical component parts. Moisture may cause short circuits. The improper installation of parts or improper handling of electrical systems may lead to personal injury and risks to life.

Risk of connecting the applicator to an electrical system that is not suitable for using the appliance safely.

HERMA 400 applicators are designed for connection to and operation on a TN-C-S electrical system. Appropriate technical measures must be taken before use on other types of electrical system.

TT system: For a TT system, the earthing/electrical bonding must be installed according to the applicable national regulations.

IT system: For an IT system, appropriate safety measures must be taken and the electrical bonding must be installed according to the applicable national regulations.

Improper handling of electrical systems may lead to personal injury and risks to life.



### WARNING

If there is a malfunction at the applicator it is appropriate to cut it off from the mains supply to have it stopped and avoid unforeseen action. The applicator/machine must have a mains disconnection device to cut off the mains supply in case of malfunction. Otherwise this could lead to serious injury.

Only connect the applicator to AC voltage, and check whether your mains voltage complies with the voltage specification on the nameplate.

Only connect the applicator to a properly installed, earthed power socket or connect it appropriately in the control cabinet of the relevant machine.

The applicator/machine must have a mains disconnection device to cut off the mains supply in case of malfunction.

Work on electrical components shall only be performed by authorised specialists and in observance of the relevant safety regulations.

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

When you disconnect the HERMA 400 applicator from the mains, wait at least five minutes before opening the housing or touching the connector pins. Residual voltages could be present!

Mount the applicator appropriately before energy is supplied.





### CAUTION

Due to several sensors at the applicator unforeseen movements could result if sensors get covered / uncovered unintendedly. Switch the applicator off before changing the label roll. Otherwise this could lead to injuries.

## 6.4.1 Connections

The following connections are available at the **HERMA 400** applicator (depending on the configuration):

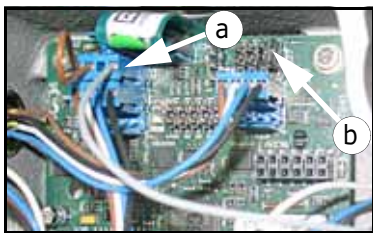
<p><b>X14</b> ( PPS ) /(X16 (special)*)</p> <p><b>X16</b> ( V , VM , I ) /</p> <p><b>X19</b> ( V , VM , P , PPS )**</p> <p><b>X10</b> ( V , VM , P , PPS )</p> <p><b>X12</b></p>		<p><b>X13</b> (all types)<sup>†</sup></p> <p><b>X11</b> ( P , PPS , VM )</p> <p><b>X18</b> (all types)<sup>†</sup></p> <p><i>Shown here: left-hand version; right-hand version is mirror- inverted.</i></p>	
<p>X14 – Serial OUT</p> <p>X16 – Labeling start</p> <p>X19 – Inputs/Outputs (ext. signals)</p> <p>X10 – Inputs/Outputs (stand. signals) / signal column/stack light (optional)</p> <p>X12 – Power supply</p>	<p>X13 – Serial IN</p> <p>X11 – Master encoder</p> <p>X18 – CAN extension</p>	<p>X17 – Transfer / Printer <sup>††</sup></p> <p>X15 – Label sensor</p>	

\* X16 as special case, if X10/X19 occupied and separate start signal required .  
Impossible with PPS.

\*\* X16 as start signal, if X10/X19 are free.

<sup>†</sup> Must be interrupted before effecting a program update or if initialized for the very first time.

<sup>††</sup> In the standard configuration as of applicator no. 206... pin 5 of the cable from X17 to X3 of the CAN-I/O board is plugged in (a). Furthermore a jumper from pin 7 to pin 8 is set on X27 (b). Thus the signal „printer running“ / „printer error“ can be interrogated.



With **motorized** unwinders the signals for end of reel and diminishing reel can be detected at the same time only if the unwinder is connected via CAN bus (X18). Detection of these web signals is effected automatically.

If, however, **external sensors** for detecting end of reel (at X3) and diminishing reel (at X2) are to be used at the same time for a motorized unwinder of the winder system at the CAN bus this plug of X17 must be removed from X3. The printer signal can then not be interrogated any longer.

Additionally the jumper from pin 7 to pin 8 on X27 must be removed since otherwise end of reel would be indicated as a printer error.

**NOTICE**

For the appropriate pin assignment of the connections, refer to the section 5 or the separate wiring diagram.

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

See chapter 5 for the assignment of connectors X10 and X19 (if available).

## 6.5 Inserting the label web (web paths)



### CAUTION

Before inserting the label web, ensure that the applicator/machine is switched off.

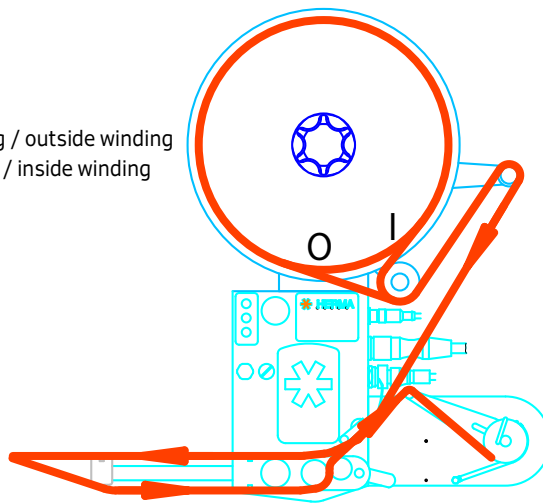
The following schemes show how to insert the label web with the most common standard applicators. A separate insertion scheme is provided for applicator configurations other than shown here. As the case may be, this scheme may also be attached to the machine.

### 6.5.1 Right-hand applicator with standard dispensing plate

681297

0 = Außenwicklung / outside winding

I = Innenwicklung / inside winding

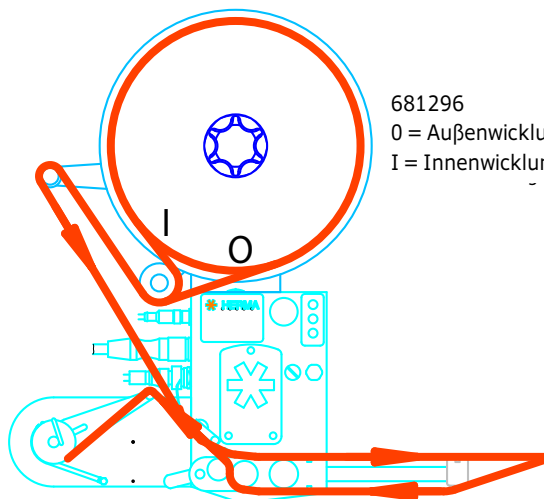


### 6.5.2 Left-hand applicator with standard dispensing plate

681296

0 = Außenwicklung / outside winding

I = Innenwicklung / inside winding

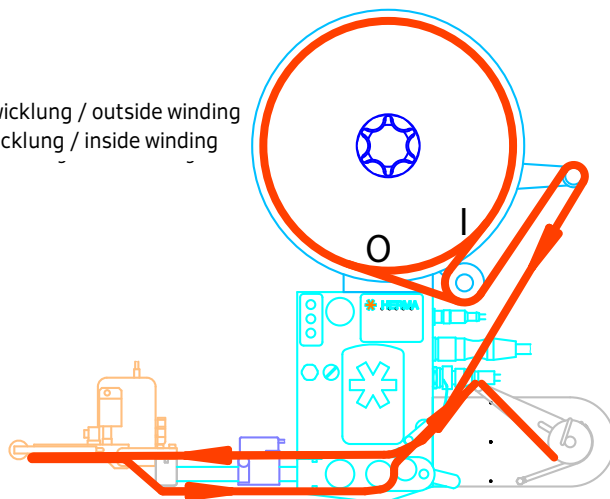


### 6.5.3 Right-hand applicator with pivot beak

681299

0 = Außenwicklung / outside winding

I = Innenwicklung / inside winding

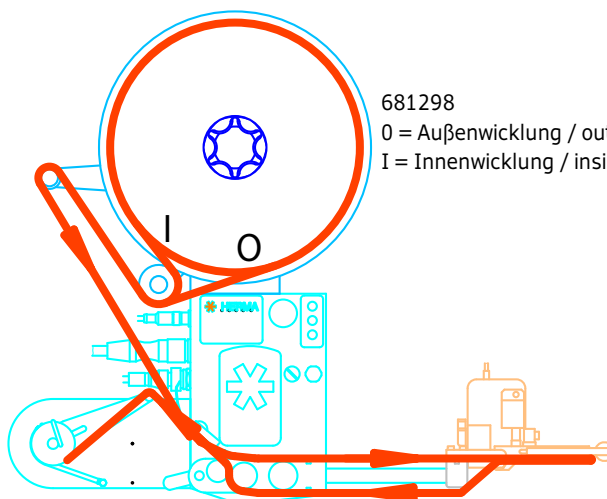


### 6.5.4 Left-hand applicator with pivot beak

681298

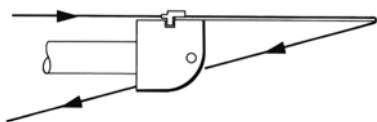
0 = Außenwicklung / outside winding

I = Innenwicklung / inside winding

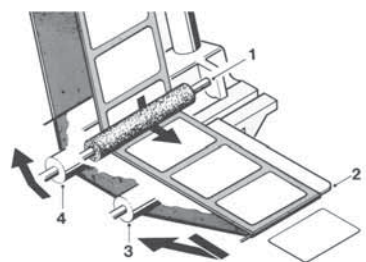
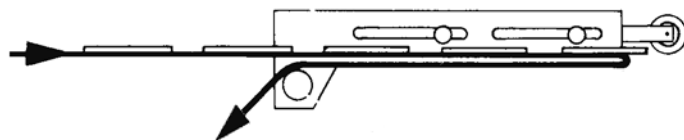


### Detailed illustrations

Detail dispensing plate

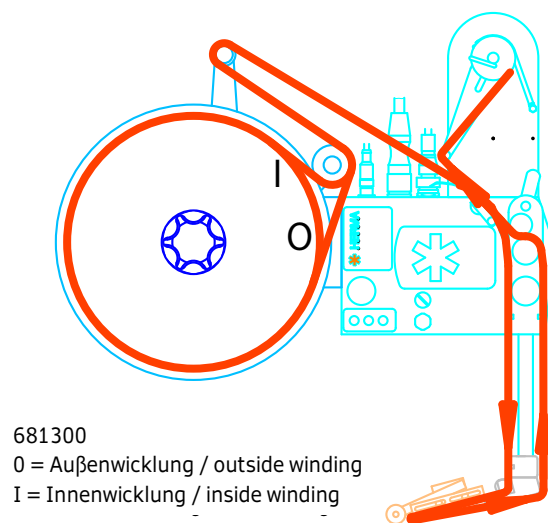


Detail pivot beak

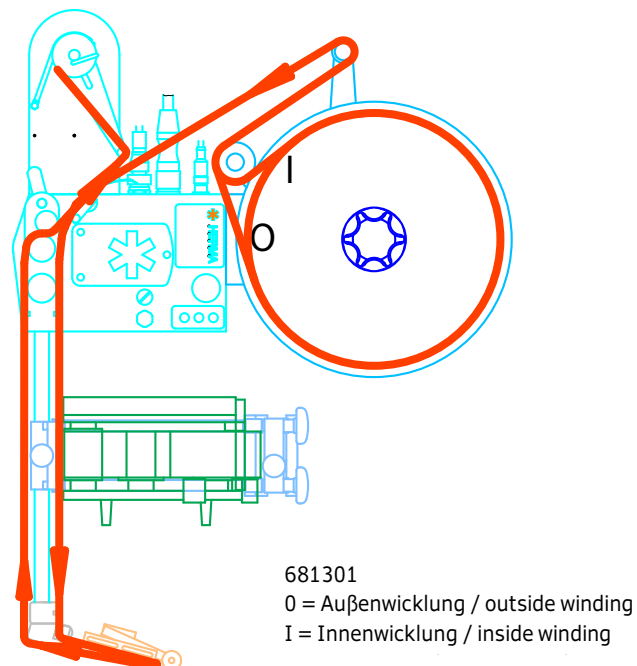


Detail dispensing plate, 75° angular

### 6.5.5 Right-hand applicator with dispensing plate with spring-loaded roller, 75° angular



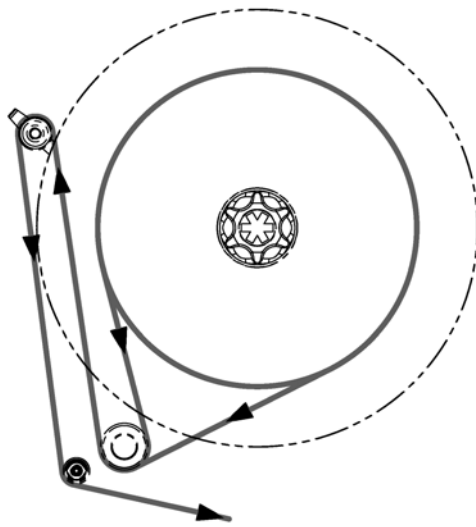
### 6.5.6 Left-hand applicator with dispensing plate with spring-loaded roller, 75° angular



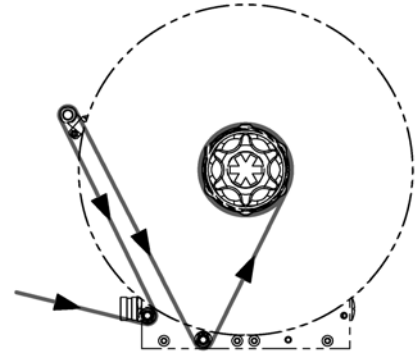
Further to these standard layouts there are variants when using the SlimLine winder system (motorized unwinder and rewinder, with or without loop-type unwinder), the arrangements of which including web path is shown in the following illustrations.

## 6.5.7 Winder system, left-hand applicator

\*



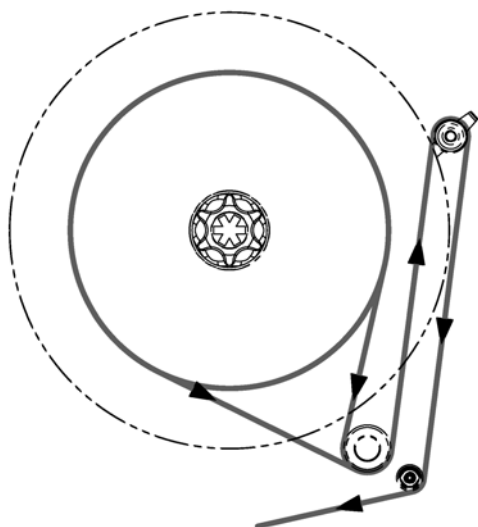
Unwinder



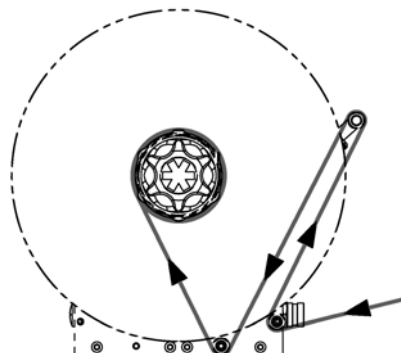
Rewinder

\* The winder system is a modular system consisting of the individual components of unwinder, loop-type unwinder and backing paper take up unit (rewinder), each of which is **motor** driven . See sections 4.1.2, 4.1.3 and 4.1.11.

## 6.5.8 Winder system, right-hand applicator

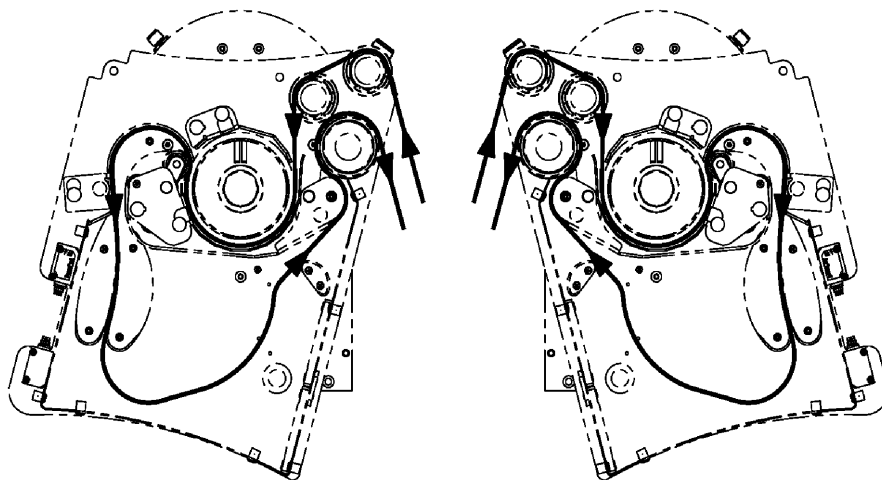


Unwinder

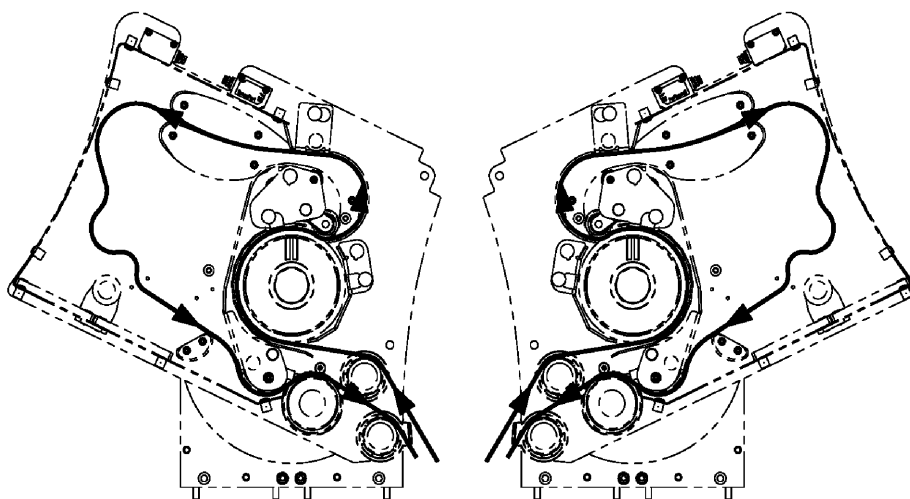


Rewinder

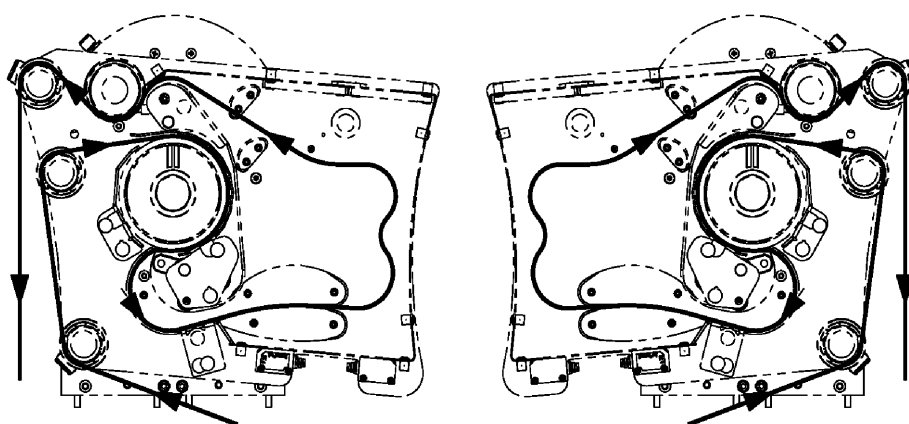
### 6.5.9 Winder system, loop-type unwinder



Type 4 L/R



Type 7 L/R



Type 5 L/R



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# 7 Putting into operation

## WARNING

Observe all safety regulations at your site as well as the safety notes outlined in chapter 3 as of page 17 when switching on the applicator.

If the applicator does not have a power plug, the unit must only be connected by a qualified electrician in accordance with national and local electrical codes. Observe the wiring diagram included with the documentation.

Failure to do so could result in serious injury or death or property damage.

## CAUTION

While the applicator is on the label web moves. Make sure to not reach into the area of the moving web. During operation, there is a risk of being cut when the label web is moving.

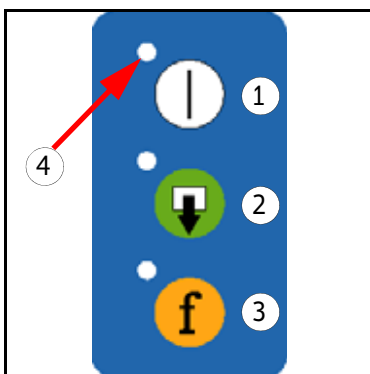


Applicators which are part of a larger machine structure are usually switched on with the main switch for the entire setup (see also the respective separate manual for that machine). Single applicators are put into operation as shown here.



> Connect power plug with mains.

The power cable is connected to the X12 connector at the applicator's housing. See section 6.4.1 on page 84.




> Press switch-on key **1** at the applicator.  
The light **4** beside the key must be on.  
The machine is ready to operate.

Pressing button **2** will dispense a label.

Pressing button **3** twice (quickly) will activate or deactivate the optional printer. For more functions of this key see section 9.1 on page 98.



**Important:** When inserting a new label reel *always* dispense at least two labels manually with the help of the key !  
This will teach in the label length / max. label cycle.



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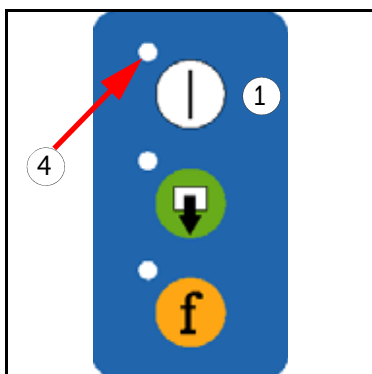
## 8 Putting out of operation

### **WARNING**

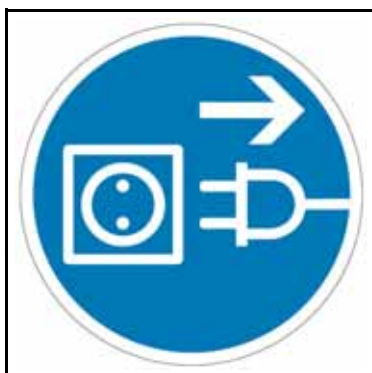
If the applicator does not have a power plug, the unit must only be disconnected by a qualified electrician in accordance with national and local electrical codes. Observe the wiring diagram included with the documentation.



Applicators which are part of a larger machine structure are usually switched off with the main switch for the entire setup (see also the respective separate manual for that machine). Single applicators are put out of operation as shown here.



- > Press switch-on key **1** at the applicator.  
The light **4** beside the key must be off.



- > Disconnect power plug from mains.

### 8.1 End-of-life disposal

In case of disposal, please refer to your local recycling system.

The product should not be mixed with other commercial wastes for disposal at the end of its working life.

To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.












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## 9 Operation (via the HERMA 400 control)

### General designations

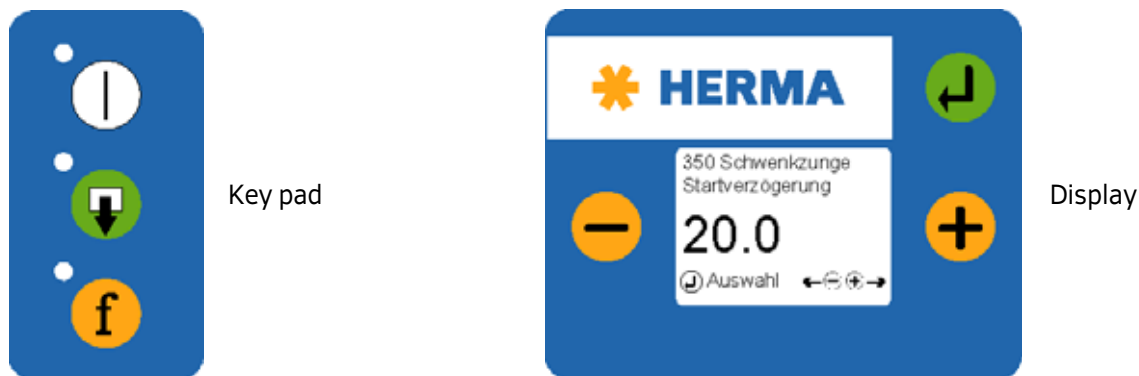
Elements of the HERMA 400 control are designated and depicted in this chapter as follows:

	Switch-on key
	Manual feed key
	Function key
	LED (on)
	LED (blinks)
	LED (off)
	Minus key
	Plus key
	Enter key

Find further explanation on these elements in section 9.1.

## 9.1 Design (keypad and display)

Applicators [HERMA 400](#) are operated via the keys of the key pad and the display. The display allows entry and adjustment of applicator parameters. Basic values, such as e.g. the start delay of the applicator, may be set either here or as well via optional potentiometers (in an external housing or in the control box).



### Key pad

Keys of the key pad have the following function (provided the applicator is not connected to a PLC; in that case the functions of the keys may be disabled. See the respective remark.):



#### Applicator ON/OFF


The LED of the key is on if the drive is ON.

(Function available if not jumper „Remote“ is set on X27. In that case switching on/off would be effected via pin X10.6)



#### Manual feeding

You can manually feed a label by pressing this key.

**Important:** When inserting a new label reel always dispense at least two labels manually with the help of the key !

(Function available if jumper „Feed“ is set on X27. If the jumper is not set feeding can be effected via external signal only)



#### Function key

There are several functions for this key (see following table).



### Printer ON/OFF

An optional printer can be switched on and off with the function key, pressing it quickly two times („double tip“).

If the printer is ON the function „compensate for missing labels“ is active at the same time. That means, missing labels on the web will be detected automatically and the web always stopped in correct position such that imprint and, as the case may be, control cycles will be effected on every label.

The LED of the key is on if the printer is on.



### Switch on the drive's permanent run mode

This operating mode is required, e.g., to determine the applicator's speed.



#### IMPORTANT:

Open lever first (nip roller)!

The current speed is indicated and may be adjusted as required via the display parameter for the speed (see below in section 9.5.5, page 105).

In order to stop the permanent run mode press one of the keys or . The permanent run mode is also stopped if the label sensor can notice a change (label transport).

Do not forget to close the lever (see picture above) when you are finished.



### Escape function in display menus

Pressing this key in a display menu will get you back to the next higher level, as far as to the basic display image (see section 9.1, page 100). In the Edit mode (see section 9.5) any changes will be discarded.

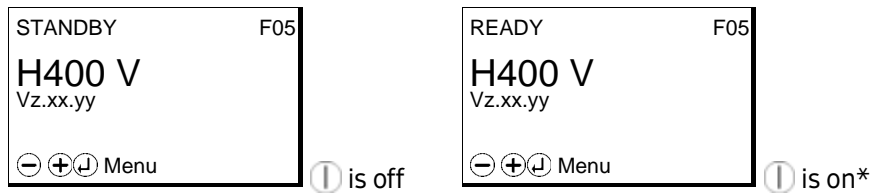
Make sure to press the key **only once** since otherwise the status of the printer and the function „compensate for missing labels“ will be changed!



When using the applicator in a machine with superordinate control which has its own user interface (e.g. a touch panel) the Technical Service can deactivate the functionality of the display.


## Display

The display is activated with applying mains and will show one of two possible variants of the **basic display image**:




\* if parameter 915 is set to '00'. Other images, however, can be chosen as well. See section 9.12.3 on page 122.



If used, the format currently loaded is indicated in the right upper corner of the basic display image (e.g. „F05“ for format 05). See section 9.10 on page 120.

This basic display image will be shown automatically if no key is pressed at the display for two minutes or if the user actuates the function key  several times in a menu or in the edit mode.

The applicator type will be indicated in the basic display image with a corresponding letter:

**E** (Econ ) , **I** (Idea ) , **V** (Vario ) , **VM** (Vario M ) , **P** (Premium ) , **PPS** (Premium Plus Serial ) .

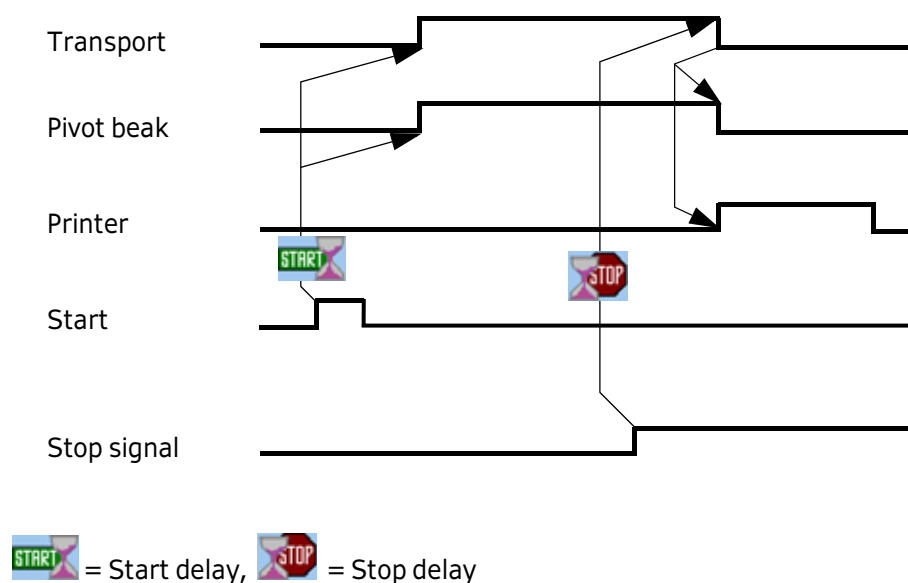
The current software version is indicated in the next line (this may be required by the Technical Service).

Inputs for start signal and label sensor are indicated via symbols in the right bottom corner of the display:  = startsignal is applied,  = label sensor currently on label (paper).

For a further description see section 9.5, page 103, and following.

## 9.2 Function diagram

Functions in the **HERMA 400** applicator are as follows (pivot beak and printer are options):





## 9.3 End of reel and diminishing reel (internal)


The functions of diminishing reel and end of reel may be integrated in the unwinder, i.e., no external sensors are used but the label supply calculated via internal logic.

Prerequisite for this type of sensing is that the disk for taking up the label reel actually rotates, i.e., the reel definitely must be clamped firmly (use appropriate sleeve, turn handle of unwinder completely to the right).

In order to have this logic function correctly the following must also be observed:

<b>Trigger</b>	For calculating the label supply the label transport may be triggered via the START input (normal production), however transport via the  key will also be part of the calculation. Take note of the fact, though, that messages on end of reel will be acknowledged with pressing the key  .
<b>Minimum transport</b>	Calculating the label supply can be done not before at least approx. 157" (4 m) of label web were transported (for triggering end of reel approx. 16" (400 mm) are sufficient). This minimum transport must be effected each time after the applicator was switched off.
<b>Warning</b>	A warning (DIM signal) is triggered if the width of the label web falls below approx. 0.6" / 16 mm (diameter core (=3"/76 mm) + label web is below approx. 4.3" / 108 mm).
<b>End of reel</b>	End of reel (END signal) is triggered if the label supply is used up, however not before a minimum transport of approx. 16" / 400 mm (with preceding DIM signal after 5.9" / 150 mm already).
<b>End of reel without signal</b>	If with unfavourable condition end of reel cannot be calculated the applicator will stop with a series fault of the label sensor.

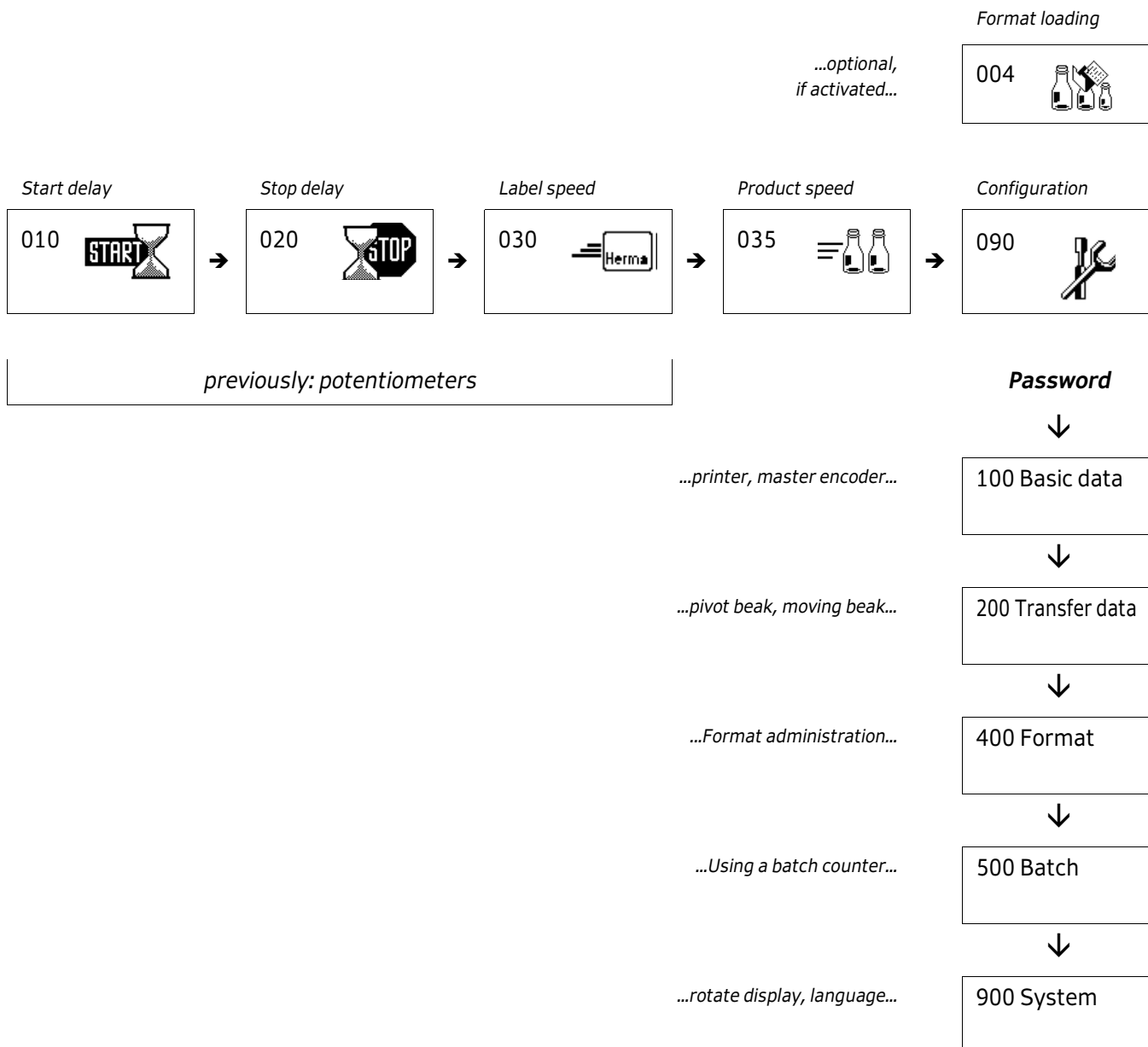
### Testing the function

- > The outputs for diminishing reel (DIM) and end of reel (END) are „high“ active, i.e.,  
END=24V=end of reel,  
END=0V=no end of reel (or less than 157" / 4 m of web transport was effected).
- > Insert a label reel with low label supply, at least, however, approx. 197" / 5 m of label web .
- > Dispense labels (observe above prerequisites (preferably transport labels via the START input instead of via the )).


## 9.4 Overview display structure HERMA 400

Standby / Ready

 → Quick menu:









## 9.5 The display's Quick Menu

As soon as the key  is pressed while the basic display image is shown all parameters and submenus of the so-called Quick Menu are shown. In this Quick Menu you will find the basic values for the applicator's start delay, the labels' stop delay, the applicator's speed, as the case may be the product's speed, and the configuration menu with further parameters.

### Navigation

The last line of a (standard) parameter entry is made up as follows:

 Select    



Change between parameters with the keys  and , in both directions (i.e. from the last entry with  to the first one, or with  from the first entry to the last one).


The key  calls up the **edit mode** (for modifying values).

### Edit mode

After pressing the enter key (calling up the edit mode) the last line changes as follows:


  Edit  OK

In the edit mode values are increased or decreased with the help of the keys  and . With Quick Menu parameters changes are effected immediately so that the effect of the change can be checked for without any delay. If no key is pressed for two minutes the basic display image (see above) is shown and the value that was used last is kept set. With all other parameters changes are discarded if no key is pressed for two minutes.

Before two minutes have passed without any keypress the key  saves the (modified) value and shows the original parameter entry. Normal navigation is active.



Modification of a value after pressing the enter key  is symbolized by showing a graphical OK symbol (light tick in black circle) for a short moment.

Pressing the function key  (several times) will leave the parameter entry or the edit mode (with any changes discarded) and the basic display image (see above) is shown.

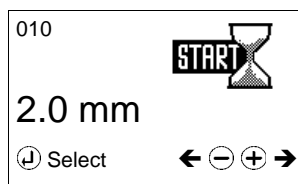
### 9.5.1 Format selection (Quick Menu parameter, optional)



Range: 01–30

After a format is loaded and thus format administration is activated you can here easily and quickly select another format. Select „No formats“ to deactivate format administration. This quick menu parameter will be deactivated as well. Formats created before, however, will remain saved and can of course be called up and loaded at any time. See section 9.10.1 on page 120.

### 9.5.2 Start delay applicator (Quick Menu parameter)



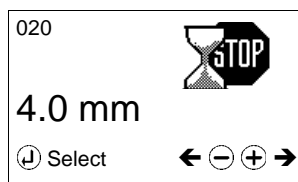
Range: **I**, **V**, **VM**, **P**, **PPS** 0–800 mm (no function with **E**).

This basic value determines the **delay between start signal and actual start of label transport**. Thus, for example, the label's position on the product can be altered. Note: In conjunction with moving beak and transfer unit this value is given in milliseconds and defines the delay between product detection and starting the dispensing/transfer cycle.

With activated multi labeling (section 9.8.17, parameter 160) there is a separate start delay for every label, indicated with a corresponding digit beside the symbol.

Take note of the fact that depending on what is entered as the maximum product speed (parameter 113) the range of values (minimum value) changes for this parameter.

### 9.5.3 Stop delay label (Quick Menu parameter)



Range: **I**, **E**, **V**, **VM**, **P**, **PPS** 0–400 mm

This value determines the **stop position of the label at the dispensing beak** (see „Positioning the label“ in section 4.1.5 or 4.1.6 (pages 41 / 46)). Note: if several labels are dispensed per labeling cycle this value might need to be decreased!

With activated twin labeling (section 9.8.17, parameter 160) there is a separate stop delay for both labels, indicated with a corresponding digit beside the symbol. With multi labeling with more than two labels the stop delay is identical for all labels.

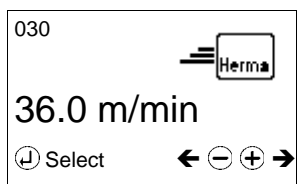
Take note of the fact that depending on what is entered as the maximum label speed (parameter 112, for Technical Service only) the range of values (minimum value) changes for this parameter.

### 9.5.4 Speed difference between applicator and application roller (029)

This parameter will appear only if parameter 201 (available only for Technical Service) is set to „**CAN: Type 152**“.

This parameter holds the desired speed difference between applicator and application roller with type 152. A negative value causes the applicator to be slower compared to the roller by the amount entered, a positive value causes it to be faster. The application roller's speed will be automatically determined by the applicator's control via pulse reading.

### 9.5.5 Speed of the applicator (Quick Menu parameter)

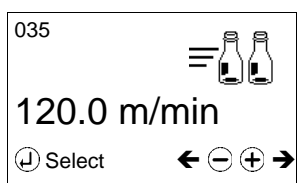


Range: **I** 3–20, **E** 3–30, **V** 3–40, **VM** 3–80, **P**, **PPS** 0–120 m/min

With the help of this parameter the **speed of the label web** can be adjusted. Minimum and maximum speeds correspond to the performance of the drive used.

When using a master encoder this parameter will adjust the speed for manual feeding (after pressing the key ).

### 9.5.6 Speed of the product (Quick Menu parameter, optional)



Range: Max. 120.0 m/min.

With the help of this parameter the **speed of the product to be labeled** can be adjusted.

The speed can be adjusted, i.e. this parameter is available, for all application types except for rigid beak, pivot beak, and type 211.

When using a master encoder the product speed can only be read.

Specifying the product speed may be required if there is a difference between product and label speeds. In such case specifying the product speed can ensure a highest possible positioning accuracy.

### 9.5.7 Conveyor speed 152 (036)

This parameter will appear only if parameter 201 (available only for Technical Service) is set to „**CAN: Type 152**“.

The current conveyor speed with application type „152“.

### 9.5.8 Product speed transverse transfer system (037)

This parameter will appear only if parameter 201 (available only for Technical Service) is set to „**X17: Transverse unit**“ or „**CAN: Transverse unit**“.

The product speed with application type „Transverse unit“.

This value is required to convert start delay + activation time into a distance.

## 9.6 Potentiometers

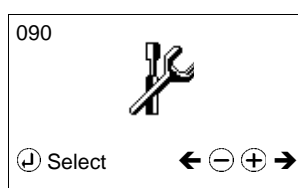
Basic values of the applicator may optionally be adjusted via potentiometers as well (analog input). In that case this will be shown in the display:

Analog      ← ⊖ ⊕ →

instead of      ⬇ Select      ← ⊖ ⊕ →

The corresponding value can be read at the display but it cannot be modified via the display.

## 9.7 The display's configuration menu



In order to avoid incorrect entries the configuration menu can be called up only after entering a special key combination. There is a differentiation between access priorities, i.e. simple parameters can be displayed and modified with the key combination for operators, more sensitive parameters only with the key combination for technicians.

Above that there are parameters that are factory set and can only be changed by the Technical Service. Depending on such parameters some of the following parameters will be / will not be shown. There are hints in the corresponding parameter descriptions.

### NOTICE

Make these key combinations available only to authorized personnel. Careless handling of the configuration menu parameters could severely impair the applicator's function.

### Calling up

Operator (password level 1 (PWL1))	⬇ + 3x ⊕ + 2x ⊖ + ⬇
Technician (password level 2 (PWL2))	⬇ + 3x ⊕ + 3x ⊖ + 1x ⊕ + ⬇

### Design

The configuration menu is divided up into several submenus:

**Basic data**

**Transfer data**

**Format**

**Batch**

**System**

## 9.8 Menu 100 Basic data

### 9.8.1 115 Master enc. transfer

This parameter will appear only if parameter 110 (available only for Technical Service) is set to „02 Master encoder“. With PWL2 only, this and the two following parameters are for all application types except for rigid beak, pivot beak and type 211.

The dead time of a unit (e.g. transverse transfer unit) can be determined and compensated with the help of this parameter, in conjunction with parameter 116.

**Production:**

The normal setting for production, without determining the dead time.

**Test speed low:**

Select this setting and label a product at slow test speed.

**Test speed fast:**


Select this setting and label the same product at high test speed.

**Dead time calculation:**

Select this setting to enter in parameter 116 the difference / the distance between the two labels dispensed above.

### 9.8.2 116 Master enc. transfer Label pos. difference

This parameter will appear only if parameter 110 (available only for Technical Service) is set to „02 Master encoder“ and parameter 115 is set to auf „Dead time calculation“. With PWL2 only.

Enter the difference / the distance in mm between the labels dispensed above (parameter 115). The dead time determined will be entered in parameter 122 after pressing the  key.

### 9.8.3 120 Master encoder Pulses / revolution

This parameter will appear only if parameter 110 (available only for Technical Service) is set to „02 Master encoder“.

Adjusting the pulses/increments emitted per revolution of the master encoder. See the indication at the master encoder.

Note: Entering a negative value here, e.g. -2000, will reverse the sense of rotation of the master encoder.

### 9.8.4 121 Master encoder Distance / revolution

This parameter will appear only if parameter 110 (available only for Technical Service) is set to „02 Master encoder“.

Adjusting the distance of the web covered per revolution of the master encoder.

### 9.8.5 122 Master encoder Start compensation

This parameter will appear only if parameter 110 (available only for Technical Service) is set to „02 Master encoder“. With PWL2 only.

Setting the dead time of the start sensor in order to compensate for the resulting delay. See also parameter 116 (PWL3 required).

## 9.8.6 123 Master encoder Stop compensation

This parameter will appear only if parameter 110 (available only for Technical Service) is set to „02 Master encoder“. With PWL2 only.

Setting the dead time of the stop sensor (label sensor) in order to compensate for the resulting delay.

## 9.8.7 124 Master encoder Mini loop on/off

This parameter will appear only if parameter 110 (available only for Technical Service) is set to „02 Master encoder“. With PWL2 only.

Switching the mini loop on or off. This mini loop is built after a delay (to be set via parameter 125) by accelerating the web for a short time (distance to be set via parameter 126). The mini loop reduces the tension load of the web.

## 9.8.8 125 Master encoder Mini loop start delay

This parameter will appear only if parameter 110 (available only for Technical Service) is set to „02 Master encoder“ and parameter 124 is set to „On“. With PWL2 only.

The delay in mm web transport after which the mini loop is built.

## 9.8.9 126 Master encoder Mini loop size

This parameter will appear only if parameter 110 (available only for Technical Service) is set to „02 Master encoder“ and parameter 124 is set to „On“. With PWL2 only.

The distance in mm on which the mini loop is built.

## 9.8.10 127 Master encoder rollfed Cutter distance

This parameter will appear only if parameter 110 (available only for Technical Service) is set to „02 Master enc. Rollfed“. With PWL2 only.

Cutter distance from cutting to cutting (with Rollfed only). Here you have to enter the distance from cutting to cutting. With the help of this basic value the control program will calculate the required speed profile for an exact feed of the foil.

## 9.8.11 128 Master encoder rollfed Difference StSt cont.

This parameter will appear only if parameter 110 (available only for Technical Service) is set to „02 Master enc. Rollfed“. With PWL1 only.

With the help of this value the difference in position between start-stop mode and continuous pass-through mode can be set. Due to the vacuum drum and the prolonged time for drawing in case of start-stop operation usually the foil will be expanded more than with continuous operation. Here this difference will be entered so that the edge of cut will always be at the same position.

## 9.8.12 140 Start signal

**Rising edge (stand.):**

Web transport is started with detecting the rising edge of the label.

**Sensor mark:**

Web transport is started on detection of a sensor mark. Use parameters 141 through 143 for specifying.

**Start inhibit:**

Start of web transport is inhibited on a distance determined with parameter 144.

**Falling edge:**

Web transport is started with detecting the falling edge of the label.

**9.8.13 141 Start signal Mark field 1**

This parameter will appear only if parameter 140 is set to „01 Sensor mark“. With PWL2 only.

The length of sensor mark field 1 (the distance in front of the actual mark).

**9.8.14 142 Start signal Mark field 2**

This parameter will appear only if parameter 140 is set to „01 Sensor mark“. With PWL2 only.

The length of sensor mark field 2 (the distance of the actual mark).

**9.8.15 143 Start signal Mark field 3**

This parameter will appear only if parameter 140 is set to „01 Sensor mark“. With PWL2 only.

Optional. The length of sensor mark field 3 (the distance behind the actual mark).

**9.8.16 144 Start inhibit Start inhibit distance**

This parameter will appear only if parameter 140 is set to „02 Start inhibit“. With PWL2 only.

The distance on which a start signal is to be inhibited (suppressed) after one start signal was received.

**9.8.17 160 Multi labelling**

With PWL2 only.

**Single (standard):**

With every start signal one single label is dispensed.

**Twin (different labels):**

With every start signal two labels are dispensed. For individually applying the labels, e.g. on the front and back of a product, there are separate parameters in the quick menu for start and stop delays for every label.

**Multiple (equal labels):**

With every start signal several labels are dispensed. The number of labels is determined with the help of parameter 161. For individually applying the labels there are separate parameters in the quick menu for the start delay for every label. The stop delay that can be set with the corresponding quick menu parameter is the same for all labels.

**9.8.18 161 Multi labelling Number of labels**

With PWL2 only.

Enter here the number of labels to be dispensed per start signal if you set parameter 160 to „Multiple (equal labels)“ before.

### 9.8.19 180 Stop signal

#### Rising edge (stand.):

Web transport is stopped with the rising edge of the label.

#### Sensor mark:

Web transport is stopped on detection of a sensor mark. Use parameters 131 through 133 for specifying.

#### Stop inhibit:

Stop of web transport is inhibited on a distance determined with parameter 134.

#### Hole inhibit:

For annulus labels the stop of web transport can be inhibited in the hole on a distance determined with parameter 135.

#### No label length check:

Normal stop of web transport, however, without teaching the label length, i.e. transport stops with the next signal or after 800 mm at the latest.

#### Falling edge:

Web transport is stopped with the falling edge of the label.

### 9.8.20 181 Stop signal Mark field 1

This parameter will appear only if parameter 180 is set to „01 Sensor mark“. With PWL2 only.

The length of sensor mark field 1 (the distance in front of the actual mark).

### 9.8.21 182 Stop signal Mark field 2

This parameter will appear only if parameter 180 is set to „01 Sensor mark“. With PWL2 only.

The length of sensor mark field 2 (the distance of the actual mark).

### 9.8.22 183 Stop signal Mark field 3

This parameter will appear only if parameter 180 is set to „01 Sensor mark“. With PWL2 only.

Optional. The length of sensor mark field 3 (the distance behind the actual mark).

### 9.8.23 184 Stop inhibit Stop inhibit distance

This parameter will appear only if parameter 180 is set to „02 Stop inhibit“. With PWL2 only.

The distance on which a stop signal is to be inhibited (suppressed) after one stop signal was received.

### 9.8.24 185 Hole inhibit Hole inhibit distance

This parameter will appear only if parameter 180 is set to „03 Hole inhibit“. With PWL2 only.

The distance of the hole of annulus labels on which a stop signal is to be inhibited (suppressed).

### 9.8.25 186 Label tolerance

This parameter will appear only after activating the special function of „Quality monitoring“. With PWL2 only.

The maximum deviation tolerance with activated quality monitoring. If this tolerance is exceeded further labeling processes will be stopped and a corresponding error message generated.

See also section „944 Monitoring quality“ on page 123.

### **9.8.26      187 Stop sensor Label position**

Enter here which label the stop sensor (label sensor) is positioned on, where the label directly at the dispensing beak is number „1“. With PWL2 only.

### **9.8.27      188 Stop at missing label**

With PWL2 only.

#### **Off:**

If labels are missing on the web the web is transported further to the next label available (maximum three times a label length).

#### **On:**

If labels are missing on the web the web is stopped as if labels were available.

#### **Coupled with printer:**

The function depends on whether a printer is switched on (in which case this function is active) or switched off (in which case this function is not active).

### **9.8.28      189 Stop sensor: NoLabel**

With PWL2 only.

Enter here when to activate the output No\_LABEL (X19.10).

#### **at sensor (standard):**

Activating at the label sensor.

#### **at dispensing beak:**

Activating if the missing label „is“ at the dispensing beak.

#### **at disp. beak . +FEED:**

Activating if the missing label „is“ at the dispensing beak. Label feed is done automatically.

#### **at disp. beak +FAULT:**

Activating if the missing label „is“ at the dispensing beak. Error message SM106, „Missing label at dispensing beak“ is shown.

### **9.8.29      190 Printer on/off**

Switch the optional printer on or off.

### **9.8.30      192 Printer Every nth label**

With PWL2 only. If parameter 191 (printer mode, available with PWL3 only) is set to „Standstill, every nth“.

Indication that only every nth label gets printed onto, with n=1...255.

### **9.8.31      194 Printer Start delay**

With PWL2 only. The time in milliseconds until the printer actually starts printing after the end of web transport.

### 9.8.32 195 Printer Print time

The time in milliseconds given for one print process, if the printing mode is set to „Standstill“ (adjustable with PWL3 only).

**Note:** This time will have no effect when using the hot-foil printer Allen Compact 40/20 CL and thus is in such case always to be set to 10 ms. For this printer the print time is to be adjusted in the printer's control. See the corresponding manual.

### 9.8.33 195 Printer Printing length

The length in millimeters given for one print process, if the printing mode is set to „In motion“ (adjustable with PWL3 only).

## 9.9 Menu 200 Transfer data

### 9.9.1 201 Application type

As factory setting one of the following application types is selected via parameter 201 (available for Technical Service only):

**00 Rigid beak:** Using a „normal“ rigid dispensing beak.

**01 X17: Pivot beak:** Using a pivot beak, connected to X17.

**02 X17: Moving beak:** Using a moving beak, connected to X17.

**03 X17: Transverse unit:** Using a transverse transfer unit, connected to X17.

**04 X17: Telescope:** Using a transfer unit (linear unit), connected to X17.

**05 X17: Blow box:** Using a transfer unit „Blow box“, connected to X17.

**06 CAN: Type211:** Using the functionality of the semi-automatic machine type 211, with two drive units (one for the applicator, the other for the roller unit).

**07 CAN: Moving beak:** Using a moving beak, connected via CAN bus ( / only).

**08 CAN: Transverse unit:** Using a transverse transfer unit, connected via CAN bus ( / only).

**09 CAN: Telescope:** Using a transfer unit (linear unit), connected via CAN bus ( / only).

**10 CAN: Mov. beak + tel.:** Using moving beak and transfer unit, connected via CAN bus ( / only).

**11 CAN: Beak + mov. tel.:** Using dispensing beak and moving transfer unit, connected via CAN bus ( / only).

**12 CAN: Typ 152:** Use on a type 152C wrap-around labeler.

Parameters of the transfer data menu will show, underneath the parameter number, the indication of the application type selected in the format „Axx“, with xx = 00 – 10, e.g.

211 Pivo beak type

**A01** Label related



—————The following parameters will appear only if parameter 201 (available only for Technical Service) is set to „**X17: Pivot beak**“.—

### 9.9.2 210 Pivot beak on/off

Switch the optional pivot beak on or off.

### 9.9.3 211 Pivot beak Type

#### Coupled with label:

The pivot beak is activated in conjunction with the web transport.

#### Always on:

The pivot beak is always activated (in lower position), if the applicator is switched on and there is no malfunction.

#### Product related:

Start delay and activation time of the pivot beak can be adjusted individually (see parameters 212 and 213). The times are dependent on the product detection.

#### Label related:

Start delay and activation time of the pivot beak can be adjusted individually (see parameters 212 and 214). The times are dependent on start and stop of label transport. Negative values can also be used, which means that in such case the pivot beak can be lowered before label transport starts and can be moved upwards before label transport stops.

### 9.9.4 212 Pivot beak Start delay

This parameter will appear only if parameter 211 is set to „**Product related**“ or „**Label related**“.

If parameter 211 is set to „**Product related**“ this start delay indicates the distance in mm the product covers after detection until the pivot beak is activated.

If parameter 211 is set to „**Label related**“ this start delay indicates the distance in mm the web is transported until the pivot beak is activated. **Note:** This parameter can also take a negative value (max. the value of the quick menu's parameter set for the start delay of the label) and will in such case effect that the pivot beak is activated before the label transport.

### 9.9.5 213 Pivot beak Activation time

This parameter will appear only if parameter 211 is set to „**Product related**“.

The distance in mm (in relation to the web transport distance) within which the pivot beak remains activated after starting.

### 9.9.6 214 Pivot beak Stop delay

This parameter will appear only if parameter 211 is set to „**Label related**“.

The delay (distance in mm covered, in relation to the web transport distance) after which the pivot beak is deactivated after the stop of the web transport. **Note:** This parameter can also take a negative value and will in such case effect that the pivot beak is deactivated already before the end of the label transport.

—————End of parameters for pivot beak—————

—————The following parameters will appear only if parameter 201 (available only for Technical Service) is set to „CAN: Type 211“.—————

### 9.9.7 217 Roller unit start delay

This parameter will appear only if parameter 201 (available only for Technical Service) is set to „CAN: Type 211“.

The distance in mm roller unit and pivot beak remain activated after stopping the web transport. This value usually does not have to be modified.

The time in ms that elapses between product insertion and start of labeling. This delay is required if labeling is started by product detection, e.g. via light scanner.

### 9.9.8 218 Roller unit stop delay

This parameter will appear only if parameter 201 (available only for Technical Service) is set to „CAN: Type 211“.

The distance in mm roller unit and pivot beak remain activated after stopping the web transport. This value usually does not have to be modified.

—————End of parameters for type 211—————

—————The following parameters will appear only if parameter 201 (available only for Technical Service) is set to options with moving beak and/or transfer unit and/or Blow box, e.g. to „CAN: Mov. beak + tel.“ (moving beak + telescope (transfer unit)).—————

### 9.9.9 225 Dispensing unit Label start delay

The delay as of starting the moving beak until the label transport is activated. For optimising the labeling process you may for certain applications want to start the label transport even before the beak reaches its operational position. The dispensing beak, however, must have reached its working position before label transport is completed!

### 9.9.10 226 Dispensing unit Work pos. reached

Only if application type 201 is set to „11 CAN: Beak + mov. tel.“.

The time until the unit is in its working position. This sub-assembly is connected to output X17.2.

### 9.9.11 227 Dispensing unit Work pos. return del.

The time the beak remains activated before it is switched off (return movement started). A little delay may be required to allow any take-up cylinder (short-stroke cylinder at the transfer unit) to complete its cycle. This component would be connected to output X17.2.

### 9.9.12 229 Dispensing unit Home pos. reached

The time the beak is given to reach its home position. If a end of travel sensor is available this is the maximum time before an error message would be displayed.

### 9.9.13 235 Transfer unit After blow

For application type „Blow box“: The time required until, after blowing, the unit is ready for the next cycle.

### 9.9.14 236 Transfer unit Work pos. reached

The time the transfer unit is given to reach its operational position. If a end of travel sensor is available this is the maximum time before an error message would be displayed.

### 9.9.15 237 Transfer unit Work pos. return del.

The time the transfer unit remains activated before it is switched off (return movement started). A little delay may be required to make sure label transfer is troublefree, or to have sufficient time for any blowing.

### 9.9.16 238 Transfer unit Blow

The time available for blowing. This time starts at the same time as the delay time in parameter 237.

### 9.9.17 239 Transfer unit Home pos. reached

For application types except „Blow box“: The time the transfer unit is given to reach its home position. If a end of travel sensor is available this is the maximum time before an error message would be displayed.

—————End of parameters for moving beak and/or telescope—————

—————The following parameters will appear only if parameter 201 (available only for Technical Service) is set to „**CAN: Type 152**“.—————

### 9.9.18 260 Prism control system

#### Standard:

The prism is activated after product recognition and a configurable start delay (parameter 263). Upon expiry of the start delay in the quick menu, the labeling process is started. After the labeling cycle has finished, the prism is opened following a configurable stop delay (parameter 264).

#### Fix: start monitoring:

This operating mode is intended for aligned labeling, where the products always exit the prism at the same interval.

The prism is activated after product recognition and a configurable start delay (parameter 263).

Following a configurable start delay (parameter 265), the actual product recognition starts, e.g. the detection of a sensor mark. At the same, the activation time for the prism is started.

If no product is detected within the configurable start monitoring time (parameter 266), the start trigger is blocked and the prism opened again after the set activation time.

#### Fix: start mon. + Err:

As above, except that the machine is stopped and an error message issued if the synchronisation mark (e.g. sensor mark) is not detected.

#### Fix: start mon. + Err+Dir:

As above, except that the activation time depends on the start of the labeling process. As a result, the products leave the prism station aligned by the label position.

### 9.9.19 261 Outfeed jam Running time

The sensor for detecting an outfeed jam must remain covered for the period specified here in order for a jam to be recognised.

### 9.9.20 262 AUTOMATIC Slow-down time

Specification of how long the machine continues to run (in order to run empty) after deactivation (pressing of the "Automatic" button).

### 9.9.21 263 Prism Start delay

Delay between product recognition and closing of the roller prism in order to securely grasp the product.

### 9.9.22 264 Prism Stop delay

Delay between successful labeling and opening of the roller prism to ensure that the label is fully applied.

### 9.9.23 265 Start detection Start delay

In the case of positioned labeling (aligned according to a sensor mark), this is the time between activation of the prism and start of the sensor mark search.

### 9.9.24 266 Start detection Start monitoring

Time limit for parameter 265 (to avoid an endless search if the sensor mark cannot be detected).

## 9.9.25      **267 Auxiliary control system**

An additional output can be activated for special applications, e.g. a hold-down clamp. To enable universal use of this output, the trigger can be controlled by different events.

**Standard:**

Triggering via product recognition.

**Prism start:**

Triggering via prism activation.

**Prism stop:**

Triggering via prism deactivation.

**Label start:**

Triggering with start of labeling.

**Label stop:**

Triggering with end of labeling cycle.

## 9.9.26      **268: Auxiliary Start delay**

Start delay until activation of auxiliary output.

## 9.9.27      **269: Auxiliary Stop delay**

Activation duration of auxiliary output.

—————*End of parameters for type 152C*—————

**9.9.28 280 Label check on / off**

Activate or deactivate a missing label control (directly via sensor or indirectly via vacuum monitoring).

**9.9.29 284 Label check aft. feed**

With PWL2 and activated label check only.

Determines the procedure to follow if after dispensing no label can be detected on the vacuum pad.

**None:**

The cycle is continued normally irrespective of the result of the missing label check.

**Alarm message:**

The cycle is stopped and an error message displayed.

**Repeat feeding:**

Dispensing is repeated. An error message is shown after a second failed attempt.

**9.9.30 285 Lab. check aft. transf.**

With PWL2 and activated label control only.

Determines the procedure to follow if after label transfer a label can still be detected on the vacuum pad.

**None:**

The cycle is continued normally irrespective of the result of the missing label check.

**Alarm message:**

The cycle is stopped and an error message displayed.

**Repeat transfer:**

Transfer is repeated. An error message is shown after a second failed attempt.

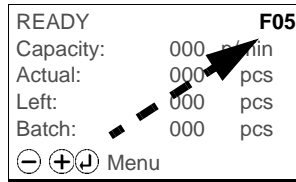
**9.9.31 286 Label check start delay**

With PWL2 and activated label control only.

The time given to any label control unit (e.g. a vacuum control) to become operational.

## 9.10 Menu 400 Format

Parameters that are set in the applicator can be named and saved in this menu, several parameter sets/configurations (up to 30) for different applications can be created, and these parameter sets/configurations, called „formats“ here, can be retrieved at any time. If formats were created the active format is indicated in the right upper corner of the basic display image:



### 9.10.1 410 Format load

Load an existing format by leafing through the list in this menu with the keys and and pressing as soon as the format wanted is shown.

After a format is loaded the menu 004 is offered in the Quick Menu, where you can then more easily and quickly select another format.

Select „No formats“ to deactivate format administration. The quick menu option 004 will be deactivated as well. Formats created before, however, will remain saved and can of course be called up and loaded at any time.

If you do not need a format any longer you can delete it under parameter 430.

### 9.10.2 420 Format save

With PWL2 only.

Save the parameter values currently set in a format by leafing through the list in this menu with the keys and pressing as soon as the number wanted is shown. Consequently you may name the format (with up to 16 characters). See parameter 422.

### 9.10.3 422 Format save Enter name

With PWL2 only.

Name a format after saving it with up to 16 digits/characters by selecting the desired place of the name with the help of the key and selecting the desired character for this place with the help of the key . Available are capital and lower case characters, numbers and special characters.

Place and character can be selected in one direction only.

### 9.10.4 430 Format delete

With PWL2 only.





Delete an existing format by leafing through the list in this menu with the keys and and pressing as soon as the format wanted is shown.

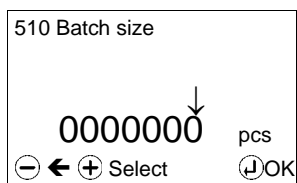
**Attention:** A format deleted cannot be restored!

To prevent a format from being deleted by pressing the key too quickly or unintentionally the first format offered is no. 31 which, however, cannot be used for saving before.


## 9.11 Menu 500 Batch

### 9.11.1 510 Batch size

If required activate a batch counter here. To do so enter a value higher than 0. After pressing  an arrow directing downwards appears above the digits of the batch counter. Use the  key to select the digit of the counter and press the  key to change the value for this digit. After completing the entries press the  key to accept the value.






This value or what is left of the batch will then be used in the various Ready screens (see section 9.12.3 on page 122).

In order to deactivate the batch counter enter a batch size of '0000000'. This resetting to 0 will be done by pressing the  key while entering the batch.

After completing a batch the message **SM154 Batch finished!** will appear.

The batch counter with the value used before will be shown anew and you can then do one of the following:

- > Enter a new batch size, as described above.
- > Accept the current batch size and simply press the  key.
- > Deactivate the batch counter by pressing the  key and so resetting it to 0 and confirm the new setting, in this case deactivation, with .

## 9.12 Menu 900 System

### 9.12.1 910 Rotate display drehen

Rotate the display by 180° if required.

### 9.12.2 912 Sprache / Language

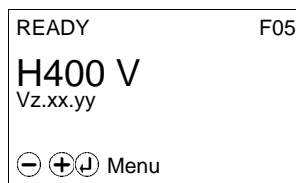
Set the display's language to one of the languages available.

### 9.12.3 915 Ready screen

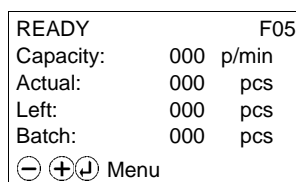
With PWL2 only.

You can select from the following screens the one to be used for the basic display image with the **I** key being on (see section „Display“ on page 100):

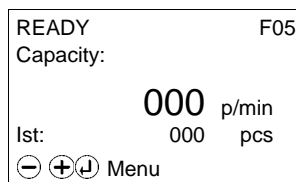
**00 Model, Firmware:** Display of applicator type (here e.g. **V** Vario) and the firmware number. This screen corresponds to the screen in Standby mode (**I** key is off).



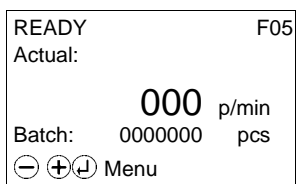
**01 Capacity, Actual, Batch:** This option is the default setting. Display of current capacity, the actual number of produced products („Actual“) and any batch data, if the batch counter was activated. See section 9.11 on page 121.



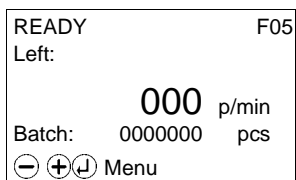
**02 Capacity (large), Actual:** Display of current capacity in large letters and the actual number of produced products („Actual“).



**03 Actual (large), Batch:** Display of the actual number of produced products in large letters and the batch size.



**04 Left (large), Batch:** Display of what is left to be produced in large letters and the batch size.



#### 9.12.4 940 Alarm message after missing labels

With PWL2 only.

Error message SM148 will appear if the label sensor detected n missing labels in a row (n=1...7).

#### 9.12.5 941 Alarm message after end of reel

If this parameter is set to **On** error message SM107 will appear in case of end of reel.

#### 9.12.6 942 Alarm message after undefined web move

If this parameter is set to **On** error message SM141 will appear in case of undefined web movement

#### 9.12.7 943 Alarm message after start sequ. too close

If this parameter is set to **On** error message SM163 will appear in case products fed with too little distance to each other.

#### 9.12.8 944 Monitoring quality

This parameter will appear only after activating the special function of „Quality monitoring“. With PWL2 only.

With the help of this parameter you can determine the strictness of monitoring the quality of label transport. Monitoring will be effected for the distance up to the „falling edge“, the label gap width as well as the total distance including overfeed delay (stop delay). Tolerance can be determined with an additional parameter. If tolerance is exceeded for one of these values a specific error message will be generated. The following settings are available:

##### **00 Off:**

Monitoring is deactivated.

##### **01 High:**

With this setting the values determined on manual feeding are used as reference values. Any deviation of tolerance will lead to a standstill and a corresponding error message. Stop delay must not be changed in this case.

**02 Medium:**

Here, minor changes of the label overfeed are accepted. Distances will conform with average values that are continuously determined anew.

**03 Little:**

With this setting an error message is issued if several labelling processes in a row are out of tolerance. Distances will conform with average values that are continuously determined anew.

See also section „186 Label tolerance“ on page 110.

**9.12.9 947 Unwinder disc**

Enter here the diameter of the unwinder disk as follows (entries in mm or inch) in order to optimize control of the end of reel signal:

**00: 300mm/12"**

**01: 400mm/16"**

**02: 500mm/20"**

**03: 600mm/24"**

**9.12.10 948 Diminishing reel diameter**

With PWL2 only.

The diameter of the sleeve upon which the output „Diminishing reel“ (X10.5 DIM) is activated.

Range: 0.0–3276.7 mm.

**9.12.11 980 Bluetooth**

With PWL2 only.

Enter here the way Bluetooth is handled:

**00:**

Bluetooth is off.

**01:**

Bluetooth is activated manually with the key combination  +  + .

**02:**

Bluetooth connection is allowed only via a registered Bluetooth device.

**9.12.12 990 Bus adress (RS485)**

With PWL2 only.

The address of the applicator if integrated in a network via RS485.

**9.12.13 992 Display add. output**

With PWL2 only.

For Technical Service only.

**9.12.14 997 Serial no. applic.**

The applicator number as indicated on the type label. Required for the Bluetooth name of the applicator.

## 9.12.15 950 Unwinder oper. modes

With PWL2 only.

Enter here the operating mode of the unwinder as follows:

### 00 Standard:

This is the normal mode of the unwinder with penulum control.

### 01 Slow:

This mode can be used with short labels and long intervals (> 1 sec) between the label feeds. The unwinder is smoothly accelerated and smoothly slowed down as well.

In most cases the tension spring effect of the pendulum is set to a minimum as well to gently treat especially sensitive adhesive materials (pendulum is mounted in a floating way).

### 02 Rollfed:

This mode is conceived for continuous high-speed labeling (customer-specific). A double pendulum is recommended.

### 03 Fix: chute + reel end:

With this mode there is no pendulum for the unwinder control. Control of unwinding the adhesive material is done via light barrier that recognizes the loop in a loop chute.

This control mode is intended for stiff label material where directing the material over the pendulum roller will inevitably detach the labels.

If the loop falls below a second light barrier an end of reel is triggered. This is required since adhesive materials may be used which do not easily detach from the the roll (dancer roll required).

Acceleration and deceleration of the drive can be set with a second parameter. The setting of this parameter must be adapted to the production process.

Practice has shown that for an optimum a fixed setting is to be preferred to an automatic determination.

### 04 Fix: chute + min. li. bar.:

Same as 03, the second light barrier, however, is used for increasing the unwinding speed and not for an end-of-reel detection.

### 05 Chute + reel end:

As 03, where acceleration and deceleration is adapted automatically by the program.

### 06 Chute min./max. li. bar.:

As 04, where acceleration and deceleration is adapted automatically by the program.

## 9.12.16 951 Unwinder output

With PWL2 only.

Here the control characteristic of the unwinder is set as follows:

### 00 Automatic:

With the help of this standard setting the basic setting of the unwinder with penulum is effected on the basis of the operating mode of the applicator and the set maximum speed of the label transport.

Prerequisite: parameter 950 must be set to „Standard“. This means that the operating parameters of the applicator preset the operating mode for the penulum-controlled unwinder.

If the setting „Automatic“ is not chosen a modification of the drive behaviour can be done with the %-increments.

With the %-specification the drive behaviour with respect to acceleration and deceleration can be preset. 100 % corresponds to hard acceleration and deceleration, 30 % corresponds to a very low acceleration and deceleration.

With using the drive as an unwinder with loop control the setting usually should be around 45 %.

With a 100 %-setting there is a risk of the sleeve getting tangled up due to the hard acceleration and deceleration.

**01 100%:**

**02 95%:**

**03 90%:**

**04 85%:**

**05 80%:**

**06 75%:**

**07 70%:**

**08 65%:**

**09 60%:**

**10 55%:**

**11 50%:**

**12 45%:**

**13 40%:**

**14 35%:**

**15 30%:**

### 9.12.17 952 Loop unwinder

With PWL2 only.

There are two parameters for setting the characteristic of the loop unwinder since in extreme cases large label feeds at high speed, or small labels with occasional transport must be dealt with.

Enter the mode of the loop unwinder as follows:

**00 Standard:** With the standard setting the loop unwinder is set and optimised automatically. After switching on or after pausing for an extended period of time the control is set to its highest dynamics, i.e., even with small label feeds and little output the drive will run roughly in the beginning. On the other hand, however, after a long phase of little output and sudden high performance the loop may not be able to be built up in time.

**01 Automatic:** Based on the operating mode and the set maximum speed of the applicator the loop unwinder is preset with respect to acceleration and maximum speed. The loop unwinder will optimise itself automatically to the current process during operation.

**02 Fast:** With respect to final speed and acceleration the drive is set to high discharging speed. During operation the drive will optimise itself for the actual requirement.

**03 Medium:** As 02, but for middle speed range.

**04 Slow:** As 02, but for low speed range.

**„Fix“ settings:**

Here the drive is constantly operated with the same preset acceleration. The final speed must be determined with the help of parameter 953.

Example setting 05: Here the drive is set to highest dynamic. This setting will always be maintained.

Example setting 13: Here the drive receives an inert (slow) setting. This setting will always be maintained.

05 Fix: \*\*\*\*\*:

06 Fix: \*\*\*\*\*:

07 Fix: \*\*\*\*\*:

08 Fix: \*\*\*\*\*:

09 Fix: \*\*\*\*\*:

10 Fix: \*\*\*\*\*:

11 Fix: \*\*\*\*\*:

12 Fix: \*\*\*\*\*:

13 Fix: \*\*\*\*\*:

14 Fix: \*\*\*\*\*:

### 9.12.18 953 Loop unwinder output

With PWL2 only.

With the help of this parameter the characteristic of the drive can be set further. Here, mainly the maximum drive speed is determined:

**00 Automatik:** Here the settings for acceleration and final drive speed are made on the basis of the applicator settings.

**01 100%:** Here operation is effected with maximum dynamics and maximum final drive speed.

**02 95%:**

**03 90%:**

**04 85%:**

**05 80%:**

**06 75%:**

**07 70%:**

**08 65%:** Dynamics and final drive speed are reduced. This will enable a gentle treatment of the label web.

**Example settings:**

Label lengths of more than 200 mm and a dispensing speed over 40 meters/min should always be dealt with using a quite hard fix setting. The reason for this is a quite small loop supply of approx. 250 mm. If a slow setting is used here some kind of blocking may easily result.

For highest dynamic at highest speed the following parameter setting must be chosen:

Parameter 952 with **05 Fix: \*\*\*\*\***, parameter 953 with **01 100%**.

For small label feeds at moderate speed and sensitive label web this parameter setting may deliver good results:

Parameter 952 with **09 Fix: \*\*\*\*\***, parameter 953 with **06 75%**.

### 9.12.19 954 Unwinder Mode

With PWL2 only. This parameter determines the operational behaviour of the unwinder.

**00 Normal:** Integrated in production mode.

**01 Passive:** All functions available, but status or output of error messages will not be transmitted.

**02 Off:** No functions.

### 9.12.20 955 Rewinder Mode

With PWL2 only. This parameter determines the operational behaviour of the rewinder.

**00 Normal:** Integrated in production mode.

**01 Passive:** All functions available, but status or output of error messages will not be transmitted.

**02 Off:** No functions.

### 9.12.21 956 Loop unwinder Mode

With PWL2 only. This parameter determines the operational behaviour of the loop unwinder.

**00 Normal:** Integrated in production mode.

**01 Passive:** All functions available, but status or output of error messages will not be transmitted.

**02 Off:** No functions.

### 9.12.22 957 Rewinder output

With PWL2 only.

For optimizing the rewinder's behavior this parameter affects the rewinder's characteristics as well as the stop delay in case of a web break. In this context the information on the stop delay means:

(S) Sensitive (short delay)

(T) Tolerant (long delay)

(O) Off (an error message will not be generated).

**00 Standard (S):**

**01 Standard (O):**

**02 Automatik (S):** Automatically adapted to the labeling speed.

**03 Automatik (T):** Automatically adapted to the labeling speed.

**04 Automatik (O):**

**05 100% (S):** Aggressive.

**06 100% (T):**

07 100% (O):

08 90% (S):

09 90% (T):

10 90% (O):

11 70% (S):

12 70% (T):

13 70% (O):

14 60% (S): Soft

15 60% (T):

### 9.12.23 958 Unwinder protection 1

With PWL2 only. With the help of this parameter the sensitivity of the unwinder protection can be set [via movement of the pendulum](#). Normally the pendulum will never remain in the same position within a certain distance but will swing around its working point. This fact is used here. If the pendulum remains in the same position over a long distance you may suspect the pendulum is blocked. An error message is generated.

The following settings for the sensitivity are available:

**00 Off:** Switched off.

**01 Tolerant:** A longer unwinding distance is possible.

**02 Normal:** .

**03 Strict:** Short unwinding distance.

The parameter may have to be adapted to the production conditions.

### 9.12.24 959 Unwinder protection 2

With PWL2 only. With the help of this parameter the sensitivity of the unwinder protection can be set [via the removal / unwinding distance](#). It is an indication that if the unwinding distance is much higher than the feeding distance of the applicator there is a malfunction of the unwinder.

The following settings for the sensitivity are available:

**00 Off:** Switched off.

**01 Tolerant:** A longer unwinding distance is possible.

**02 Normal:** .

**03 Strict:** Short unwinding distance.

The parameter may have to be adapted to the production conditions.

Monitoring must be switched off if e. g. a printer loop is built from an autonomous printing unit. Here label feed is asynchronous to unwinding.

### 9.12.25 990 Bus adress (RS485)

With PWL2 only.

The address of the applicator if integrated in a network via RS485.

If possible, the following address defaults should be adhered to:

Address 01 thru 20 for applicator in field bus operation

Address 21 thru 28 for applicator with config protocol.

A change in address will be effective only after the applicator was switched off. When using a RS232 interface the applicator will react to any address.

### 9.12.26 992 Display add. output

With PWL2 only. With this parameter various status data for service purposes are shown. These details may be required by our service staff in case of a malfunction. See also the explanation with the description of error messages SM910, SM913, SM919.

**0:** Reset this function.

**148:** Details will be shown temporarily. The information will disappear after switching the applicator off and then on again.

**400:** Details will be shown permanently until the function is reset (set this parameter to **0**).

# 10 Cleaning, maintenance, service

## WARNING

Working on the applicator for cleaning or maintenance while it is connected to mains this could lead to unintended connection to electric current. Before carrying out cleaning or maintenance work disconnect applicator / machine from mains! Otherwise this could lead to serious injuries.

Set the applicator to standby mode (I is off) before changing the label roll.

## Cleaning notes

### NOTICE

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

Make sure that all machine parts that touch the products to be labeled are free from adhesive or label fragments.

Remove adhesive residue with a label solvent.

Clean label sensing/scanning unit with a soft cloth only.

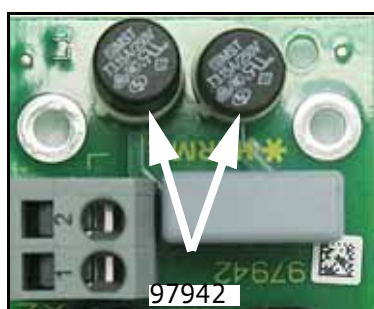
Do not remove adhesive residue from reversing and feed rollers with sharp-edged objects.

Some more notes on cleaning you will find in the respective description of the sub-assemblies (sections 4.1).

## Exchanging fuses

### DANGER

**Risk of electric shock! Disconnect all sources of supply and wait for five minutes before opening the rear cover or touching the connector pins! Electrocutation may occur.**



> Use suitable gripping tool for removing and inserting.

See chapter 5 for fuse specifications.

### NOTICE

**Important:** Opening the screws at the front of the drive unit [HERMA 400](#) will void the warranty!



## 10.1 Maintenance schedule

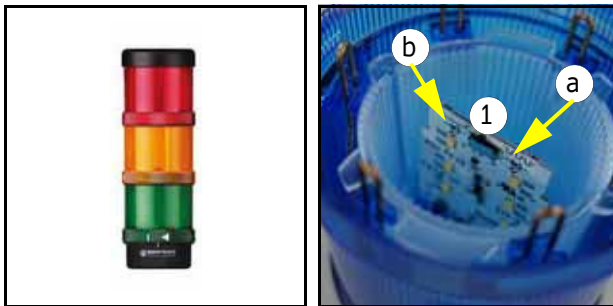
Recommended interval	Maintenance task
Daily	<b>Dispensing beak / plate</b> Remove adhesive residue
	<b>Transport roller</b> Remove adhesive residue and clean. For details see section 4.1.9, page 57.
	<b>Brake plate</b> Remove adhesive residue. For details see section 4.1.4, page 40.
	<b>(Reversing) rollers</b> Remove adhesive residue
	<b>Label sensor</b> Clean the sensor (see separate instruction manual, if applicable)
	<b>Pivot beak / Application unit</b> Remove adhesive residue and clean. For details see section 4.1.7, page 50.
	<b>Moving beak</b> Remove adhesive residue and clean. For details see section 4.1.7, page 51.
	<b>Transverse transfer system</b> Remove adhesive residue and clean. For details see section 4.1.8, page 55.
Weekly	<b>Housing</b> Clean display and housing
	<b>Pneumatic system (if applicable)</b> Check air supply and components (see separate instruction manual, if applicable)
Monthly	<b>Signal column (if applicable)</b> Check the bulbs
Every 5 years	Check all <b>pneumatic hoses</b> for porosity and replace if needed (if applicable)
Every 10 years	Exchange all <b>pneumatic hoses</b> (if applicable)
Generally, depending on extent of use	The need for exchanging the <b>toothed belt</b> in the basic unit of the applicator is to be reckoned with after approx. 50.000.000 to 100.000.000 labelling cycles
	The <b>pulleys</b> of the standard rewinder are to be exchanged with every second exchange of the corresponding belt

# 11 Troubleshooting

## 11.1 Indication of malfunctions

With **HERMA 400** applicators the type of malfunction is indicated via the display (see section 11.2). Also, the LEDs of the key pad will give an indication (see section 11.3 „Malfunction table (LED indication)“).



Furthermore there is the possibility to connect a signal column to X10. With the usual allocation red stands for malfunction, yellow for warning, and green for production.




**Note:** The lamps can be switched over between blinking (position **a**) and permanent light (position **b**), or flash light and EVS flash. To do so actuate the little switch **1** at the LED board. Switch positions are marked by symbols.

### Acknowledging malfunctions

If the applicator is connected to a superordinate control malfunctions very often are acknowledged centrally (e.g. at a touch display).

Directly at the applicator or via superordinate control malfunctions are acknowledged by pressing the key  or applying a signal (rising edge only ). See the following table (section 11.3, column „Acknowledge“).



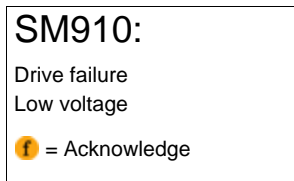
**Note:** Always dispense at least two labels (pressing the key ) after occurrence of a malfunction in order to ensure a correct label's position at the dispensing beak. If there are optional print or control systems present and active, as many labels must be dispensed as there are between dispensing beak and the remotest unit.




**Note:** The elements of the SlimLine winder system (motorized unwinder, loop unwinder and rewinder) have their own error codes, indicated via their illuminated push-button and explained in the corresponding sections. See also the error messages as of SM800.

## 11.2 List of malfunctions (indicated via display)

Malfunctions are indicated with a three-digit number after the text „SM“. The next line will contain the actual text of the malfunction.



Acknowledge malfunctions by pressing the key , i.e. if a malfunction is displayed this key does not have any other function.

### 11.2.1 SM106 Missing label at dispensing beak

This message appears if there is no label at the dispensing beak and this fact is to be indicated with an error message (to be set via parameter 189 „Stop sensor: NoLabel“).

### 11.2.2 SM107 End of label web

This message appears if the label reel is used up. However, there may be other causes as well, e.g. defective light barrier, light barrier/reflector misadjusted, web break.

### 11.2.3 SM108 Dispensing unit does not reach home position

There are sensors that check the positions of this component. If one of these positions is not reached or left in time a corresponding message will appear. These problems usually have some mechanical cause which you will easily detect.

### 11.2.4 SM109 Dispensing unit does not leave home position

There are sensors that check the positions of this component. If one of these positions is not reached or left in time a corresponding message will appear. These problems usually have some mechanical cause which you will easily detect.

### 11.2.5 SM110 Dispensing unit does not reach work position

There are sensors that check the positions of this component. If one of these positions is not reached or left in time a corresponding message will appear. These problems usually have some mechanical cause which you will easily detect.

### 11.2.6 SM111 Dispensing unit does not leave work position

There are sensors that check the positions of this component. If one of these positions is not reached or left in time a corresponding message will appear. These problems usually have some mechanical cause which you will easily detect.

### 11.2.7 SM113 Transfer unit does not reach home position

There are sensors that check the positions of this component. If one of these positions is not reached or left in time a corresponding message will appear. These problems usually have some mechanical cause which you will easily detect.

**11.2.8 SM114 Transfer unit does not leave home position**

There are sensors that check the positions of this component. If one of these positions is not reached or left in time a corresponding message will appear. These problems usually have some mechanical cause which you will easily detect.

**11.2.9 SM115 Transfer unit does not reach work position**

There are sensors that check the positions of this component. If one of these positions is not reached or left in time a corresponding message will appear. These problems usually have some mechanical cause which you will easily detect.

**11.2.10 SM116 Transfer unit does not leave work position**

There are sensors that check the positions of this component. If one of these positions is not reached or left in time a corresponding message will appear. These problems usually have some mechanical cause which you will easily detect.

**11.2.11 SM119 Label check Error after label feed**

After dispensing a label there must be a label on the vacuum pad, detected by the integrated vacuum control. In this case the control unit does not detect a vacuum which means that probably there is no label on the pad. The reason for this may be a web break or a missing label on the web. Carry out a visual check.

**11.2.12 SM120 Label check Error after label transfer**

After transferring a label there must not be a label on the pad anymore, detected by the integrated vacuum control. In this case the control unit still detected a vacuum which means that probably there is still a label on the vacuum pad. Carry out a visual check to determine the cause. Maybe this is even a problem with the material to be labeled (the label could not stick to the product).

**11.2.13 SM130 Error control prism air pressure low**

This message appears if the operating pressure is set too low to control the prism. Increase the operating pressure for the prism.

**11.2.14 SM134 Printer fault**

This message appears if there is some malfunction at the printer. Maybe an error of the electrical connection (e. g. plug is loose, or foil is used up). Carry out a visual check.

**11.2.15 SM141 Undefined movement of label web**

The label sensor has signaled a level variation although there was no web transport. If the web has not been moved manually the following may be the cause:

- > Label sensor misadjusted
- > If in position of rest, the label protrudes too much beyond the beak
- > Web brakes have no effect

Remedy:

- > Re-adjust label sensor:
  - Check switching point of label sensor

- Label sensor should be positioned at least 2 mm behind the rising edge of the label gap

Label should not protrude more than approx. 1 mm beyond the beak (else the product may catch the label on passing the labeling station).

#### **11.2.16 SM148 Missing label series fault (web break?)**

This message appears if the label sensor could not detect a label three consecutive times (or as many times as set with the corresponding parameter (if any)). Check the sensor (setting) or your label material.

#### **11.2.17 SM153 Multi labelling Start sequence too close**

This message appears if with activated multi labeling (parameter 160) the various labels are too close to each other. You may have to increase the corresponding start delays.

#### **11.2.18 SM154 Batch finished!**

This message appears if a batch entered is completed. See section 9.11 on page 121.

#### **11.2.19 SM162 Start delay too low or vMax was exceeded**

This message appears if the value for the start delay was too low and / or the maximum product speed was exceeded. Increase quick menu parameter 010 „Start delay“ or check parameter 112 „Speed Maximum value (10V)“ (PWL3 required).

#### **11.2.20 SM163 Start sequence too close**

This message appears if the products are fed with too small a distance to each other, i.e., the sensor for the start of labeling gets covered before the previous labeling process is completed. Increase the products' distance to each other or check the parameters for speed (112, PWL3 required) or the start delay (010) or, as the case may be, even for the print time (195).

Maybe the start sensor is even covered permanently. In that case carry out a visual check and remove any jammed products or foreign objects.

#### **11.2.21 SM164 Start signal Sensor mark not detected**

This message appears if parameter 140 is set to „**Sensor mark**“ but this mark could not be detected within a certain time. Check adjustment of the mark reader.

#### **11.2.22 SM165 Roller unit Communication error**

This message appears if with using a subordinate basic unit, e.g. the roller motor of a type 211 labeler, a connection to this unit could not be established. Check the connection via X18 and be aware that this connection must be interrupted before updating the software or initializing the unit for the first time.

#### **11.2.23 SM166 Applicator Communication error**

This message appears if with using a superordinate basic unit, e.g. the applicator motor of a type 211 labeler, a connection to this unit could not be established. Check the connection via X18 and be aware that this connection must be interrupted before updating the software or initializing the unit for the first time.

**11.2.24 SM167 Roller unit Error**

This message appears if there is an error at the roller motor (roller prism, type 211). Maybe something is blocked. After remedying first acknowledge at the roller unit and then at the main unit.

**11.2.25 SM168 CAN connection Disconnect!**

This message appears if the CAN connection must be interrupted/disconnected (at X18).

**11.2.26 SM169 Firmware update required!**

This message appears if you have to update the firmware (e.g. via the Config software) because the firmware of the CAN I/O and the firmware of the drive unit do not match, e.g. because one of the units was replaced.

**11.2.27 SM180 Printer not finished**

This message appears if a start signal for web transport was given, the start delay has run off, the printer, however, is still „busy“ (input X17.5). Check input X17.5 and, as the case may be, the parameter for the print time (195).

**11.2.28 SM181 Chip changed!**

This message appears if the chip determining the applicator model was changed or not properly recognized during operation. Note: When changing the chip all values will be reset to factory /standard settings. Therefore, if possible, save your settings with the help of the separate configuration program.

**11.2.29 SM185 Firmware update Winder required**

This message appears if you have to update the firmware in the winder systems in order to fully use all of their options.

**11.2.30 SM186 Label sensor Check signals**

This message appears if the label sensor is possibly misadjusted. There is a discrepancy between the width of the label gap and the label length. As the case may be change from paper to metallized label.

**11.2.31 SM187 Quality control Series fault**

This message appears if there were too many inadmissible deviations in a row (consecutive error). Increase the tolerance of deviations. Manually feed labels thereafter. See parameters 186, maybe 944.

**11.2.32 SM188 Quality control Stop delay change**

This message appears if the overfeed distance (stop delay) was changed inadmissibly. Measure the label anew by feeding manually.

**11.2.33 SM189 Quality control label length wrong**

This message appears if the overfeed distance (stop delay) of the label is too long. Measure the label anew by feeding manually. As the case may be increase the tolerance. See parameters 186, maybe 944.

#### **11.2.34 SM190 Quality control label length wrong**

This message appears if the overfeed distance (stop delay) of the label is too short. Measure the label anew by feeding manually. As the case may be increase the tolerance. See parameters 186, maybe 944.

#### **11.2.35 SM193 Label size wrong Manual feed**

This message appears if the label's overfeed distance (stop delay) of the last 5 labels heavily differ from the previous values. Measure the label anew by feeding manually.

#### **11.2.36 SM198 CAN communication Response time**

This message appears if the response to a switching operation took too long. Please turn to our Technical Service or to your HERMA partner if this malfunction occurs repeatedly.

#### **11.2.37 SM199 CAN communication no CAN module detected**

This message appears if there is no connection to the required CAN module. Check the cabling.

#### **11.2.38 SM804 Unwinder failure Unwinder protec. Active**

This message appears if the response time to the switching action is too long. check the unit.

#### **11.2.39 SM805 Unwinder failure TEACH process**

This message appears if on teaching the pendulum area an error occurred. The measurement segment is too small ( $<90^\circ$ ).

#### **11.2.40 SM808 Unwinder failure Too slow**

This message appears if the pendulum remains in its tensioned position too long. The unwinder does not reach the required unwinding speed.

#### **11.2.41 SM809 Unwinder failure Circuit voltage too low**

This message appears if the operating voltage is too low. Possibly the internal power supply is defective.

#### **11.2.42 SM810 Unwinder failure Overload**

This message appears if the unit was overloaded for an extended period of time. Possibly the rotating disk is rough-running, the labeling performance too high, maybe a double penulum is to be used.

#### **11.2.43 SM811 Unwinder failure Temperature too high**

This message appears if the unit's operating temperature is too high due to an overload.

#### **11.2.44 SM812 Unwinder failure End of reel**

This message appears if the pendulum is in its basic position although label web was fed.

#### **11.2.45 SM813 Unwinder failure Diameter determination**

This message appears if determining the winding diameter failed. Possibly the label reel slips.

**11.2.46 SM814 Unwinder failure Power stage**

This message appears if there is a control error of the power output stage.

**11.2.47 SM825 Loop unwinder failure TEACH process**

This message appears if on teaching the unit's function an error occurred. This message is unlikely to occur. Please turn to our Technical Service or to your HERMA partner if this malfunction occurs repeatedly.

**11.2.48 SM827 Loop unwinder failure**

This message appears if much more label web was transported than taken from the loop. Maybe slippage, maybe blocked backing paper. Check the unit.

**11.2.49 SM828 Loop unwinder failure Too slow**

This message appears if the sensor for maximum loop remained uncovered too long. Possibly the label web slips, the labeling performance is too high, wrong operating temperature for the unit.

**11.2.50 SM829 Loop unwinder failure Circuit voltage too low**

This message appears if the operating voltage is too low. Possibly the internal power supply is defective.

**11.2.51 SM830 Loop unwinder failure Overload**

This message appears if the unit was overloaded for an extended period of time. Possibly the rotating disk is rough-running, the labeling performance too high, maybe a double penulum is to be used.

**11.2.52 SM831 Loop unwinder failure Temperature too high**

This message appears if the unit's operating temperature is too high due to an overload.

**11.2.53 SM832 Loop unwinder failure End of reel**

This message appears if the loop cannot be built up any longer.

**11.2.54 SM834 Loop unwinder failure Power stage**

This message appears if there is a control error of the power output stage.

**11.2.55 SM845 Winder failure TEACH process**

This message appears if on teaching the pendulum area an error occurred. The measurement segment is too small (<90°).

**11.2.56 SM848 Winder failure Torn tape / too slow**

This message appears if the pendulum remains in its released position too long. A web break or the rewinder does not reach the required rewinding speed.

#### **11.2.57 SM849 Winder failure Circuit voltage too low**

This message appears if the operating voltage is too low. Possibly the internal power supply is defective.

#### **11.2.58 SM850 Winder failure Overload**

This message appears if the unit was overloaded for an extended period of time. Possibly the rotating disk is rough-running, the labeling performance too high, maybe a double penulum is to be used.

#### **11.2.59 SM851 Winder failure Temperature too high**

This message appears if the unit's operating temperature is too high due to an overload.

#### **11.2.60 SM854 Rewinder failure Power stage**

This message appears if there is a control error of the power output stage.

#### **11.2.61 SM865 Loop filler failure**

This message appears if a malfunction at the motorized loop unwinder of the winder system in an external loop unit occurred. The actual malfunction is indicated via blink code at the illuminated button of the unit. See the corresponding section 4.1.3.

#### **11.2.62 SM910 Drive failure Low voltage**

This message appears if low voltage was detected. Please turn to our Technical Service or to your HERMA partner if this malfunction occurs repeatedly. See the explanation with SM919.

#### **11.2.63 SM911 Drive failure High voltage**

This message appears if high voltage was detected. Please turn to our Technical Service or to your HERMA partner if this malfunction occurs repeatedly.

#### **11.2.64 SM912 Drive failure High temperature**

This message appears if a high temperature was detected. Please turn to our Technical Service or to your HERMA partner if this malfunction occurs repeatedly.

#### **11.2.65 SM913 Drive failure Overload (period)**

This message appears if the peak current was required for more than 3 seconds. Please turn to our Technical Service or to your HERMA partner if this malfunction occurs repeatedly. See the explanation with SM919.

#### **11.2.66 SM914 Drive failure**

This message appears if the encoder signals of the applicator drive could not be used. Please turn to our Technical Service or to your HERMA partner if this malfunction occurs repeatedly.

#### **11.2.67 SM916 Drive failure**

This message appears if the encoder delivers no or incorrect values. Possibly the encoder plug is not inserted correctly or it is faulty.

**11.2.68 SM917 Drive failure Powerfail**

This message appears if power supply of the intermediate circuit falls below a critical point. Please turn to our Technical Service or to your HERMA partner if this malfunction occurs repeatedly.

**11.2.69 SM918 Drive failure**

This message appears if during initialization a connection to the motor encoder could not be established. Please turn to our Technical Service or to your HERMA partner if this malfunction occurs repeatedly.

**11.2.70 SM919 Drive failure Low voltage (peak)**

This message appears if there is a short low voltage in the intermediate circuit.

If this error occurs this means that the drive's load is too high (for a short period of time). Usually this suggests the label web does not run smoothly. In order to fix the problem take the following measures at first to have the label transport run more smoothly:

- > Clean the entire area of the label web and remove any adhesive residues.
- > Make sure the label web is inserted correctly.
- > Make sure that all reversing rollers are installed and move smoothly.
- > Make sure the label web can run around the dispensing plate easily, i.e., the plate should, for example, not be sharp-edged.
- > Make sure the label sensor FS03 does not press onto the label web too much.
- > Check the adjustment of the finger plate cover at the transport roller. The roller must turn easily.
- > Decrease the spring tension of the pendulum at the standard unwinder.
- > Adjust, as the case may be, the belt tensioner (drive belt).
- > Remove any parts that were installed additionally and affect the feed force of the label web.
- > Check if the labelling speed is too high compared to the product speed.
- > Check, with corresponding applications, if the vacuum on the vacuum pad is too high.
- > Make sure to have installed the latest software version (version 2.04.35, or higher).

All this means that you should take all measures to make the label web run more smoothly.

If these measures are insufficient please contact our service department at +49 (0)711 7702 777. Before, first call up system parameter 992 "Display add. output" and set it to the value of ,148' (temporary display) or ,400' (permanent display).

You will receive further instructions over the phone by our service staff.

**11.2.71 SM920 Drive failure Overload (peak)**

This message appears if the maximum peak current was exceeded. The following may have caused it:

- The web transport required more torque as could be delivered by the drive. As the case may be, reduce the brake force of the web brake.
- An impulsive load occurred during web transport. The pendulum hit the label web or ran against a mechanical stop. The loop unwinder did not (fully) create a loop.

With high dispensing speeds (> 90 meters/min) it may occur that the first labeling cycle causes this message to appear after switching on the applicator.

The reason is that the exact rotor position is not known after switching on the applicator. In such case manually dispense a label first.

Please turn to our Technical Service or to your HERMA partner if this malfunction occurs repeatedly. As the case may be, the drive unit may need to be replaced.

#### **11.2.72 SM921 Drive failure**

This message appears if during initialization transistors could not be addressed. Please turn to our Technical Service or to your HERMA partner if this malfunction occurs repeatedly.

#### **11.2.73 SM922 Drive failure**

This message appears if the reference voltage is beyond specification. Please turn to our Technical Service or to your HERMA partner if this malfunction occurs repeatedly.

#### **11.2.74 SM923 Drive failure**

This message appears if there is a high discrepancy between nominal and current position. May indicate an overload. Please turn to our Technical Service or to your HERMA partner if this malfunction occurs repeatedly.

#### **11.2.75 SM924 Drive failure Overload**

This message appears if there is a drive failure with following switching off the PWM amplifier. Please turn to our Technical Service or to your HERMA partner if this malfunction occurs repeatedly.

#### **11.2.76 SM925 CAN communication disturbed**

This message appears if there is a failure in the connection to the CAN I/O board. Please turn to our Technical Service or to your HERMA partner if this malfunction occurs repeatedly.

#### **11.2.77 SM926 Drive failure: Overload (vMax exceeded!)**


This message only appears during deceleration of a labeling cycle. The braking current exceeds the maximum admissible value on trying to reach the calculated stop delay distance.

This will occur only if, e.g. when using a master encoder, the maximum speed entered is much lower than the actual speed when decelerating to the stop.







In this case vMax must be increased if the maximum labelling speed was exceeded and such caused an overload in the drive. Check parameter 112 „Speed Maximum value (10V)“ (PWL3 required).


Please turn to our Technical Service or to your HERMA partner if this malfunction occurs repeatedly. As the case may be, the drive unit may need to be replaced.

### 11.2.78 SM999 Drive mode was changed! f-button = restart

This message appears if a significant drive mode parameter was changed. After acknowledging the message with the  key the drive will be restarted.

## 11.3 Malfunction table (LED indication)

Malfunction	LED			Acknowledge					
							ON (ext.)	Feed (ext.)	Reset (ext.)
Clamping lever open (nip roller), web break, or missing stop signal (label sensor) – <i>without</i> printer <sup>1</sup>	●	✱ 2x	✱ 2x	•	•	•	•	0	•
Clamping lever open (nip roller), web break, or missing stop signal (label sensor) – <i>with</i> printer <sup>1</sup>	●	✱ 3x	✱ 3x	•	•	•	•	0	•
Diminishing reel at reel holder	☀	—	—	—	—	—	—	—	—
End of reel at reel holder, <i>without</i> lock (stop automatic mode)	☀	—	—	—	—	—	—	—	—
End of reel at reel holder, <i>with</i> lock (stop automatic mode)	●	✱ 4x	✱ 4x	•	•	•	•	0	•
Type difference of applicator chip during operation <sup>2</sup>	●	✱ 5x	✱ 5x	•	•	•	•	0	•
Overload switching outputs (CAN I/O) <sup>3</sup>	●	✱ 6x	✱ 6x	•	•	•	•	0	•
Products follow too close to each other	●	✱ 8x	✱ 8x	•	•	•	•	0	•
Voltage too low <sup>3</sup>	●	—	✱ 10x	•	•	•	•	0	•
Voltage too high (brake energy) <sup>3, 4</sup>	●	—	✱ 11x	•	•	•	•	0	•
Overload 1 <sup>3</sup>	●	—	✱ 12x	•	•	•	•	0	•
Overload 2 <sup>3, 5</sup>	●	—	✱ 13x	•	•	•	•	0	•
Motor blocking protection <sup>3</sup>	●	—	✱ 14x	•	•	•	•	0	•
System error <sup>3</sup>	●	—	✱ 15x	•	•	•	•	0	•
Overload 3 <sup>3</sup>	●	—	✱ 16x	•	•	•	•	0	•

- Function possible (press key, apply signal (rising edge only , i.e. level change from low to high)
- o Function impossible
- without function

### 11.3.1 Remedy of malfunctions

Mallfunction type	Remedy
1	<ul style="list-style-type: none"> <li>&gt; Close lever at the drive roller (nip roller) (see also fig. on page 99).</li> <li>&gt; Check label web, insert if required.</li> <li>&gt; Check label sensor (stop signal), replace if required.</li> </ul>
2	<ul style="list-style-type: none"> <li>&gt; Use only the correct chip belonging to the applicator</li> </ul>
3	<ul style="list-style-type: none"> <li>&gt; Please turn to our Technical Service or to your HERMA partner if a malfunction occurs repeatedly.</li> </ul>
4	<ul style="list-style-type: none"> <li>&gt; Check voltage.</li> </ul>
5	<ul style="list-style-type: none"> <li>&gt; Remove any label remainders from the drive/transport roller.</li> </ul>

## 11.4 Error blink codes with PLC connection

If the applicator is used with a PLC control without operator panel usually blink codes are implemented (usually the reset button blinks. For acknowledging the error press the reset button then).

Frequent blink codes are, e.g.:



1x	Malfunction drive
2x	Dispensing timeout
3x	Dispensing beak does not reach or leave its home position (mechanical problem or problem with sensor)
4x	Labeling cycle timeout
5x	Transfer unit does not reach or leave its home position (mechanical problem or problem with sensor)
6x	End of reel
7x	Malfunction printer

The blink codes that are actually used in your applicator you will find in the PLC overview page of the wiring diagram.

## 11.5 Other malfunctions

On the following pages you will find a table with possible malfunctions that you can correct by yourself. In case of malfunctions or defects that you cannot correct please contact our Technical Service (see section 11.7).

Malfunction	Cause	Remedy
Labeler does not start up	a) No supply voltage.	a) Connect labeler up to mains.
	b) Labeler not switched on.	b) Switch on main switch at control box and push-button at labeler housing.
	c) Plug connections loose.	c) Check plug connections and make sure coupling rings are screwed on tightly.
	d) Drive defective.	d) Replace drive. (section 11.6)
Labeler does not dispense label	a) Label web inserted incorrectly.	a) Insert label web according to description for the relevant component (sections 6.5 and 4.1 ).
	b) Pressure roller disengaged.	b) Engage pressure roller (section 4.1.9, „Inserting the backing paper“)
	c) Toothed belt defective..	c) Replace toothed belt.
Label web passes through continuously	a) Label sensing/scanning misadjusted.	a) Readjust switch point (section 4.1.5 / 4.1.6).
	b) Label sensing/scanning unit defective.	b) Replace label sensing/scanning unit.
	c) Label sensing/scanning unit dirty.	c) Clean label sensing/scanning unit (chapter 10).
	d) Too little space between labels.	d) Choose lower label web speed.

Malfunction	Cause	Remedy
Label web tears	a) Backing paper punched.	a) Reduce backing paper tension, reduce pressure of label-web brake (section 4.1.4).
	b) Label remainders clamped beneath sensing/scanning unit.	b) Clean sensing/scanning unit (chapter 10).
	c) Paper guide too close to the label.	c) Adjust paper guide for width of label web.
	d) Label web inserted incorrectly.	d) Insert label web according to description of relevant component (sections 6.5 and 4.1).
	e) Label web tracking.	e) Adjust dispensing system (section 4.1.7).
Backing paper is not wound up	a) Friction clutch in the drive is worn out.	a) Let our service staff exchange the friction clutch.
	b) Drive belt torn.	b) Replace drive belt of backing paper take-up unit.
Labels are placed inaccurately	a) Product sensing inaccurate or defective.	a) Check and correct the product sensor.
	b) Label sensing/scanning unit loose or defective.	b) Fasten or replace and adjust the label sensor (section 4.1.5 / 4.1.6)
	c) Pressure roller misadjusted, backing paper slips.	c) Correctly adjust pressure roller (section 4.1.9).
	d) Irregular distances between labels on backing paper .	d) Check for regular distances between labels on label web, in case of irregular distances use new label roll.

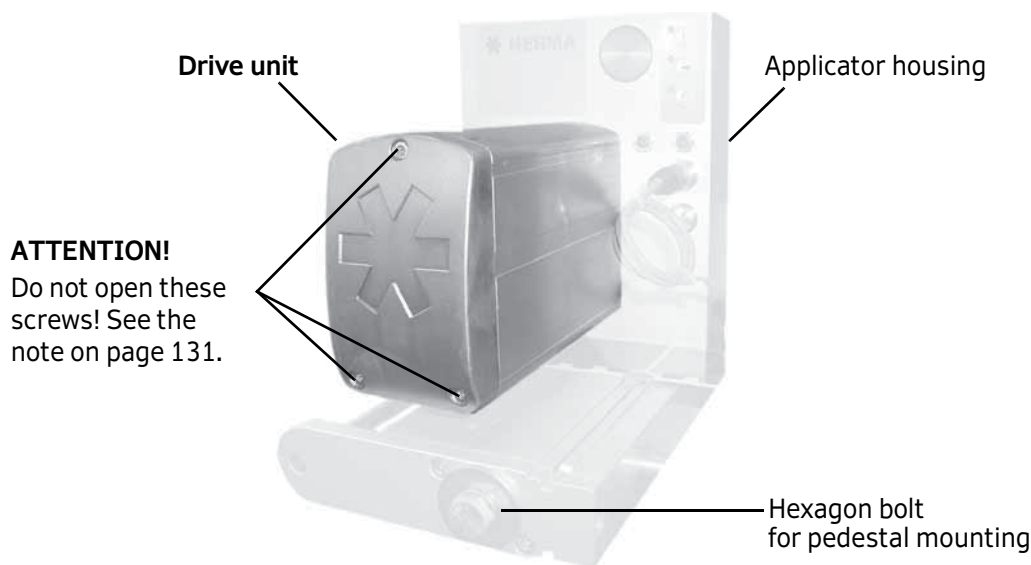
## 11.6 Replace the drive unit

### NOTICE

Principally the firmware of the drive unit and the firmware of the CAN I/O board must be of the same version. If they do not you may receive error message SM169.

Therefore make sure after replacing the drive unit you carry out a firmware update via the Config software. If required please turn to your sales agency.

Alternatively replace the CAN I/O board (position 4 on page 105) in conjunction with replacing the drive unit.



### DANGER

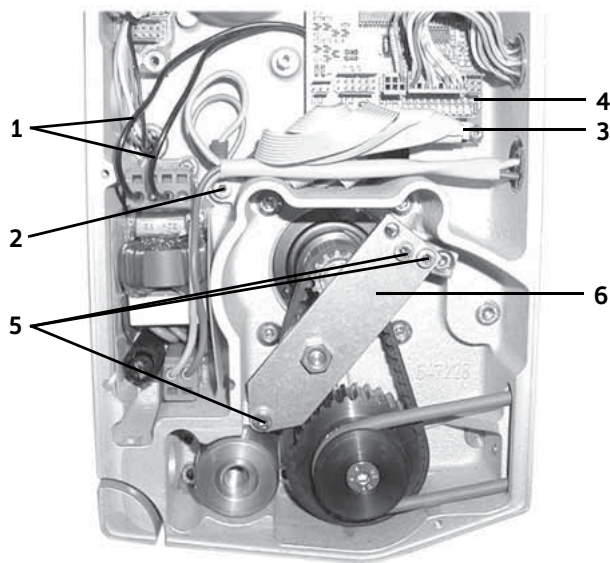
**Risk of electric shock! Disconnect all sources of supply and wait for five minutes before opening the rear cover or touching the connector pins! Electrocutation may occur.**

### 11.6.1 Remove the drive unit

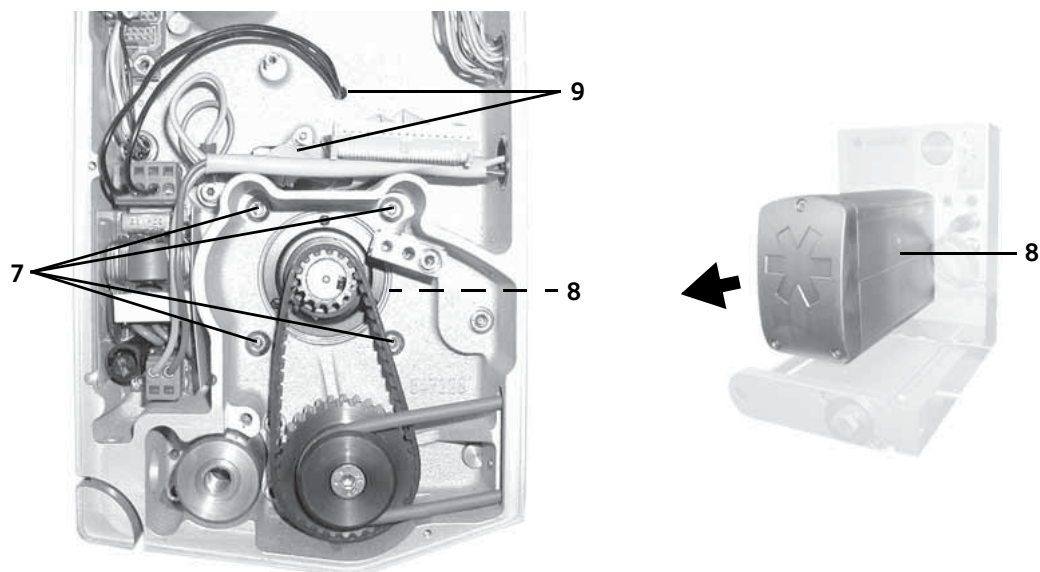
For removing the drive unit proceed as follows:

- > Make sure the applicator is voltage-free and the mains plug is disconnected.
- > Loosen the large hexagon bolt of the pedestal mounting.
- > Retract the applicator housing on the rail to the front until the back of the applicator housing can be opened.
- > Open the back of the applicator housing (three screws).

## Back of the applicator housing

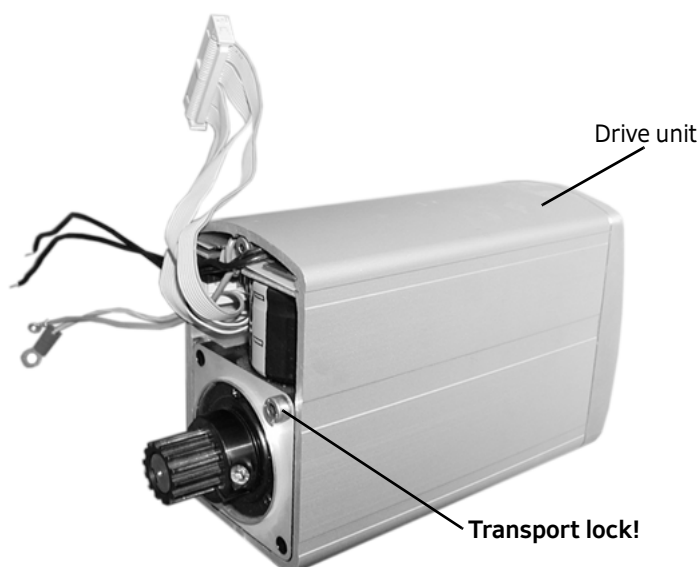


- > Loosen the motor cables (mains plug (pin1+3) **1**, protective earth conductor **2** and 34channel control cable **3**).
- > Remove the I/O circuit board **4**.
- > Loosen three screws **5** and remove the toothed-belt tensioner **6**.



- > Loosen four motor screws **7** and remove the drive unit **8**. Carefully guide the cables through the cable feed-throughs **9**.

## 11.6.2 Ship the drive unit



- > Secure the motor with the help of at least one screw (M4) in the housing of the drive unit.
- > Make sure to pack the drive unit such that it is non-slip and well padded.
- > Send the drive unit to be replaced to the Technical Service of HERMA GmbH with giving the reason for return.  
The address you will find in section 11.7.

## 11.6.3 Mount the drive unit

As the case may be, firstly remove the transport lock of the drive unit.

For mounting the drive unit fasten all components that were loosened, as described in section „11.6.1 Remove the drive unit“, with proceeding in reverse order.



You can call up an animation in our service portal [herma.com/machines](https://herma.com/machines), item "Startup/How to?", that illustrates this procedure.

Also the required firmware update will be explained in the service portal by an animation, this being the case for the applicator as well as for the winder units.

## 11.7 Technical Service

### Central office

Technical Service

**HERMA GmbH**

D-70791 Filderstadt

Telephone +49 (0)711 7702 551 / +49 (0)711 7702 777

[service-machines@herma.com](mailto:service-machines@herma.com)

[service-maschinen@herma.com](mailto:service-maschinen@herma.com)

# 12 Spare parts

## Online ordering

You can conveniently order your spare parts for the **HERMA 400** applicator in HERMA's online shop:

<https://machines.herma.com>

## Ordering information

- For other processing of spare parts orders we absolutely need the material number (Mat.-No.).
- In order to avoid queries please state applicator number as well.  
You can find this number on the type label. The silver type label you can find at the side of the applicator housing.

## Exploded drawings

You can find exploded drawings of the **HERMA 400** sub-assemblies in a separate document.

**Antriebsseinheit / Drive unit / Unité d'entraînement**

**Antriebsseinheit / Drive unit / Unité d'entraînement**

D - 70021125

No.	DE	EN	FR	Typ	#	Material
1	Unterflanschschraube M5x10 DIN 913	Bottom flange screw M5x10				611565
2	Plattenlager W50-52 102968	Anti-grime seal W50-52 102968				932711
3	Dahmrad 48x19,5x17	Groundwheel 48x19,5				70020604
4	Dahmrad 18x27,5x12	Groundwheel 18x27,5				70020605
5	Zylinderachse M5x40 DIN 913 1	Cylinder axle head screw M5x40 DIN 913 1				611015
6	Winkel L	Elbow L				647448
7	Schraube 4,5x3 DIN 913 A2 5,3x1,8	Screw 4,5x3 DIN 913 A2 5,3x1,8				611087
8	Zylinderachse M5x12 DIN 913 1	Cylinder axle head screw M5x12 DIN 913 1				610073
9	Hebel 10x30x8,5	Hebel 10x30x8,5				70020607
10	Unterflansch M5x10 DIN 913 1	Bottom flange M5x10 DIN 913 1				610272
11	Stange 13x158	Bar 13x158				600026
12	Stange 13x158	Bar 13x158				647450
13	O-Ring 7,65x1,78	O-Ring 7,65x1,78	O-Ring 7,65x1,78			611690
14	Pumpe 8,1x12x14	Pump 8,1x12x14				616023
15	Blatt 1x45,35x103,8	Sheet 1x45,35x103,8	Blatt 45,35x103,8			646884
16	Zylinderachse M5x14 DIN 913 1	Cylinder axle head screw M5x14 DIN 913 1				610546
17	Drehachse 5/16 komplett	Turned shaft 5/16 complete				646915
18	Zylinderachse M5x30 DIN 913 1	Cylinder axle M5x30 DIN 913 1				611556
19	Leiste 10x30x154	Bar 10x30x154				70000057
20	Zylinderachse M5x14 DIN 913 1	Cylinder axle head screw M5x14 DIN 913 1				615853
21	Gerundete M5x10 DIN 913 1	Set screw M5x10 DIN 913 1				611570
22	Stange 8x63	Bar 8x63				600136
23	Roller komplett	Roller complete	Roller			600134
24	Gerundete M5x10 DIN 913 1	Set screw M5x10 DIN 913 1				610414
25	Hebel 15x70x8,5	Hebel 15x70x8,5				600133
26	Zylinderachse M5x30 DIN 913 1	Cylinder axle head screw M5x30 DIN 913 1				611899
27	Gerundete M5x10 DIN 913 1	Counterlock screw M5x10 DIN 913 1				611212
28	Stange 13x153	Bar 13x153	Barre 13x153			600074
29	Bedfeder 1x73,3x160,9	Finger Plate Cover	Resort à lames 73,3x160,9x30			646885
30	Transportschale 35x17 18,0 best.	Transport roller 35x17				70020021
31	Klemmstück BOGA De 10mm	Clamping piece				611577
32	Dahmrad 54x28,5x50	Groundwheel 54x28,5				70020606
33	Schraube 20x3	Screw 20x3				646936
34	M5-TCP Fertling					618883
35	Motor-Schalt PS300DA-C2	Motor				618843

### NOTICE

**Important:** In case you replace the I/O board make sure to remove the applicator chip from the old board. You need the chip for the new board!



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<https://machines.herma.com>

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