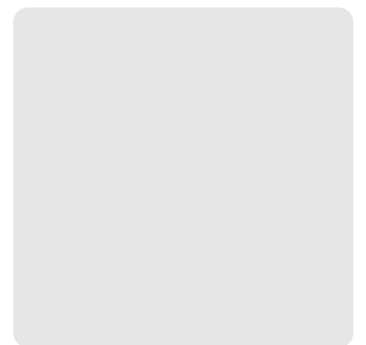


Operating Instructions

HERMA 400








Preface

These operating instructions are to help you to safely set up your machine and operate it troublefree. You should read all of these instructions before starting the machine in order to get well acquainted with it.

We made an effort to describe all important points clearly and unambiguously. However, if you have any queries or suggestions for the development of these instructions please contact us.

HERMA GmbH, Technical Documentation

Explanation of symbols

	DANGER: Indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury.
	CAUTION: Indicates a potentially hazardous situation which, if not avoided, will result in minor or moderate injury and physical damage.
	Indicates that the operation must be performed without fail / the information is mandatory to take notice of.
	Indicates that the operation is prohibited
	Indicates information you should take notice of.

Note










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Conventions

Elements of the H400 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 5.1.1.



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1 Safety

This machine complies with the essential safety and health requirements of the Machinery Directive 98/37/EC.

1.1 Important Safety Precautions



DANGER

Use HERMA 400 applicators on TN mains networks only.



Failure to observe this instruction could result in electric shocks, injuries and/or fire.

Install machine to a professionally installed and earthed socket.



Failure to observe this instruction could result in electric shocks, injuries and/or fire.

Before working on parts of the electrical equipment disconnect the machine from mains.



Failure to observe this instruction could result in electric shocks and injuries.

Wait for at least five minutes before opening the housing or touching connector pins when cutting the applicator off mains.



Failure to observe this instruction could result in electric shocks and injuries.

Do not expose the cables to sharp edges, excessive pressing forces, heavy loads or pinching forces.



Failure to observe this instruction could result in electric shocks, malfunction and/or damages.

Install an external emergency stop device so that you can shut off power in any emergency cases.



Failure to observe this instruction could result in injuries, electric shocks, fire, malfunction and/or mechanical damages

Read before use!

Important Safety Precautions (cont.)



CAUTION

If an error occurs, remove the causes for the error and secure the safety before restarting the operation.



Failure to observe this instruction could result in injuries.

Avoid extreme adjustment or change. Avoid an operation which causes unstable action.



Failure to observe this instruction could result in injuries.

Do not modify or repair the drive unit.



Failure to observe this instruction could result in fire, electric shocks and/or injuries.

Observe the voltage specified.



Failure to observe this instruction could result in electric shocks, injuries and/or fire.

Screw on all plugs completely. Make sure contact is reliable and lasting.



Failure to observe this instruction could result in electric shocks and injuries.

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



Failure to observe this instruction could result in injuries.

Read before use!

1.2 Safety notes



Pay attention to the following basic safety notes:

- Check operability of protective equipment before setting into operation for the first time.
- Check operability of protective equipment each time before setting to work.
- Non-operational protective equipment has to be replaced or repaired immediately.
- Technical status of protective equipment has to be inspected by competent staff on a regular basis, at least once a year.
- If safe operation of the machine can no longer be guaranteed it has to be put out of action immediately and be secured against further use.
- Machine may be operated by trained staff only.
Carry out supplementary training.
- Give instructions for safe operation.
- Process only products that are suitable for the machine.
- Safety switches must not be bypassed.
- The method of cleaning given in this manual must be observed.
- Use original spare parts and accessories only.
- Machine must not be modified.
- Carefully store these operating instructions.
On reselling the machine this manual must be passed on to the new owner.



Attention: The user is solely responsible for injuries or damage caused by improper use that is not in accordance with the instructions in this manual.

Read before use!



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2 Transport, Installation and Connection

2.1 Transporting the machine

When transporting the machine with the help of a fork lifter/lift-truck observe the following:



- Means of transport has to be approved for machine weight.
- Safety regulations for transporting and lifting of weights must be observed.
- The forks must be passed through between machine feet. Pay attention to the center of gravity of the machine.
- The forks must jut out from the opposite side of the machine.

2.2 Installing the machine

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



- ATTENTION: USE THE MACHINE IN DRY ROOMS.
- Machine has to be installed such that it is stable and secure.

WARRANTY



Important: Opening the screws at the front of the drive unit will void the warranty!




2.3 Electrical connection / Power supply



- HERMA 400 applicators must be used on TN mains networks only.
- Connect the machine to AC mains only and verify whether your line voltage meets the voltage given on the type plate.
- The machine must be connected to a professionally installed and earthed socket or must be professionally connected in the control box of the corresponding machine.
- Work on electrical components may only be carried out by an authorized person observing the relevant safety regulations.
- Before working on parts of the electrical equipment disconnect the machine from mains!
- When cutting the HERMA 400 applicator off mains you must wait for at least five minutes before opening the housing or touching connector pins. RESIDUAL VOLTAGES!

2.3.1 Connections

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

<p>X14 (PPS) / (X16 (special)*)</p> <p>X16 (V , VM , I) / X19 (V , VM , P , PPS)**</p> <p>X10 (V , VM , P , PPS)</p> <p>X12</p>		<p>X13 (all types)</p> <p>X11 (P , PPS , VM)</p> <p><i>Shown here: left-hand appl.; Right-hand appl.: mirror img.</i></p>	
<p>X14 – Serial OUT X16 – Labelling start X19 – Inputs/Outputs (ext. signals) X10 – Inputs/Outputs (stand. signals) / signal column (optional) X12 – Power supply</p>	<p>X13 – Serial IN X11 – Master encoder</p>	<p>X17 – Pivot beak/ Printer 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.



All plugs are secured with coupling rings.
Do not chock coupling ring when screwing it onto socket, as the thread may be damaged or rendered unusable. Screw on completely to make sure contact is reliable and lasting.

See chapter 9 for the assignment of connectors X10 and X19 (if available).

3 Operational range

3.1 Proper use of the machine

Your labeller HERMA 400 is an electronically driven machine suitable for labelling various products with different types of adhesive labels.

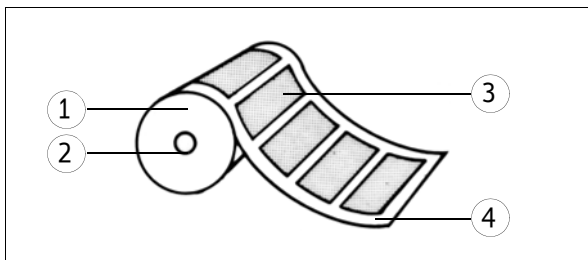
With this applicator you can unwind label reels and rewind the backing paper.

If required the labeller can be equipped with a printing unit so that you can print on your label e.g. lines of text, varying data, bar codes, and batch numbers.

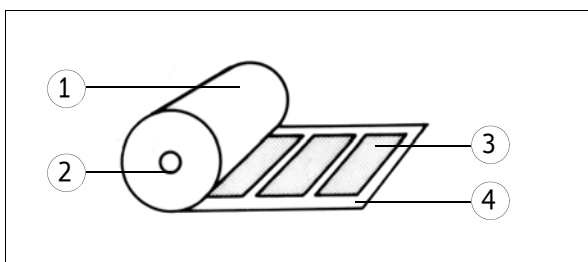
Other purposes than those described above, especially winding other material than label reels, are not intended and are prohibited.

3.2 Adhesive labels

Winding **outside**



Winding **inside**



- 1 Label reel
- 2 Reel core
- 3 Label
- 4 Backing paper

3+4 Label web



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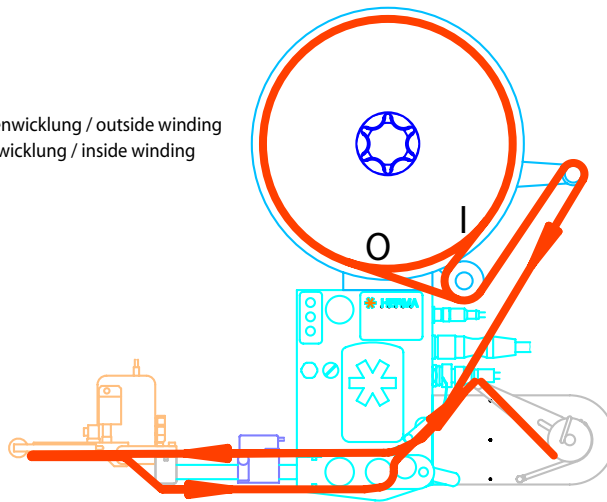
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4.1.3 Right-hand applicator with pivot beak

681299

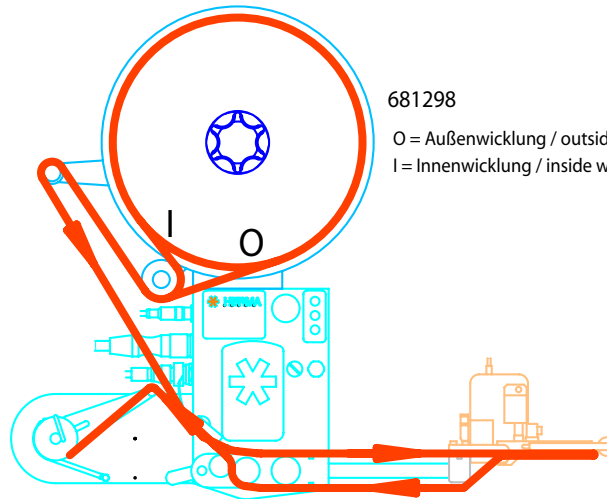
O = Außenwicklung / outside winding
I = Innenwicklung / inside winding



4.1.4 Left-hand applicator with pivot beak

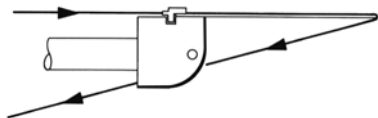
681298

O = Außenwicklung / outside winding
I = Innenwicklung / inside winding

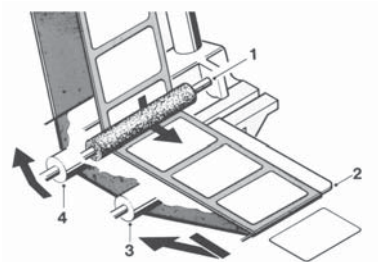
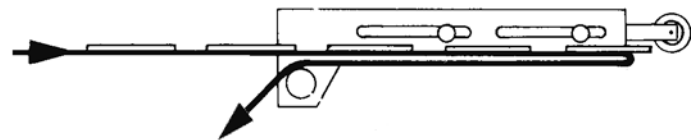


4.1.4.1 Detailed illustrations

Detail dispensing plate

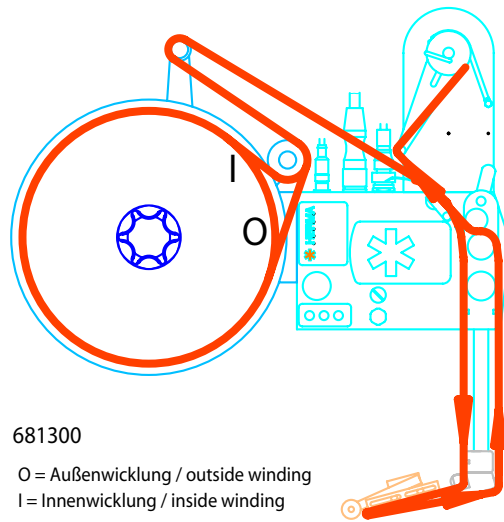


Detail pivot beak

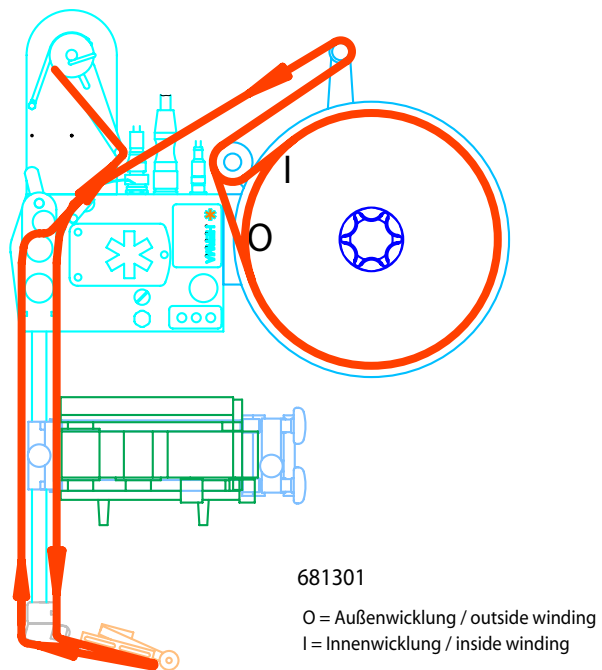


Detail dispensing plate, 75° angular

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



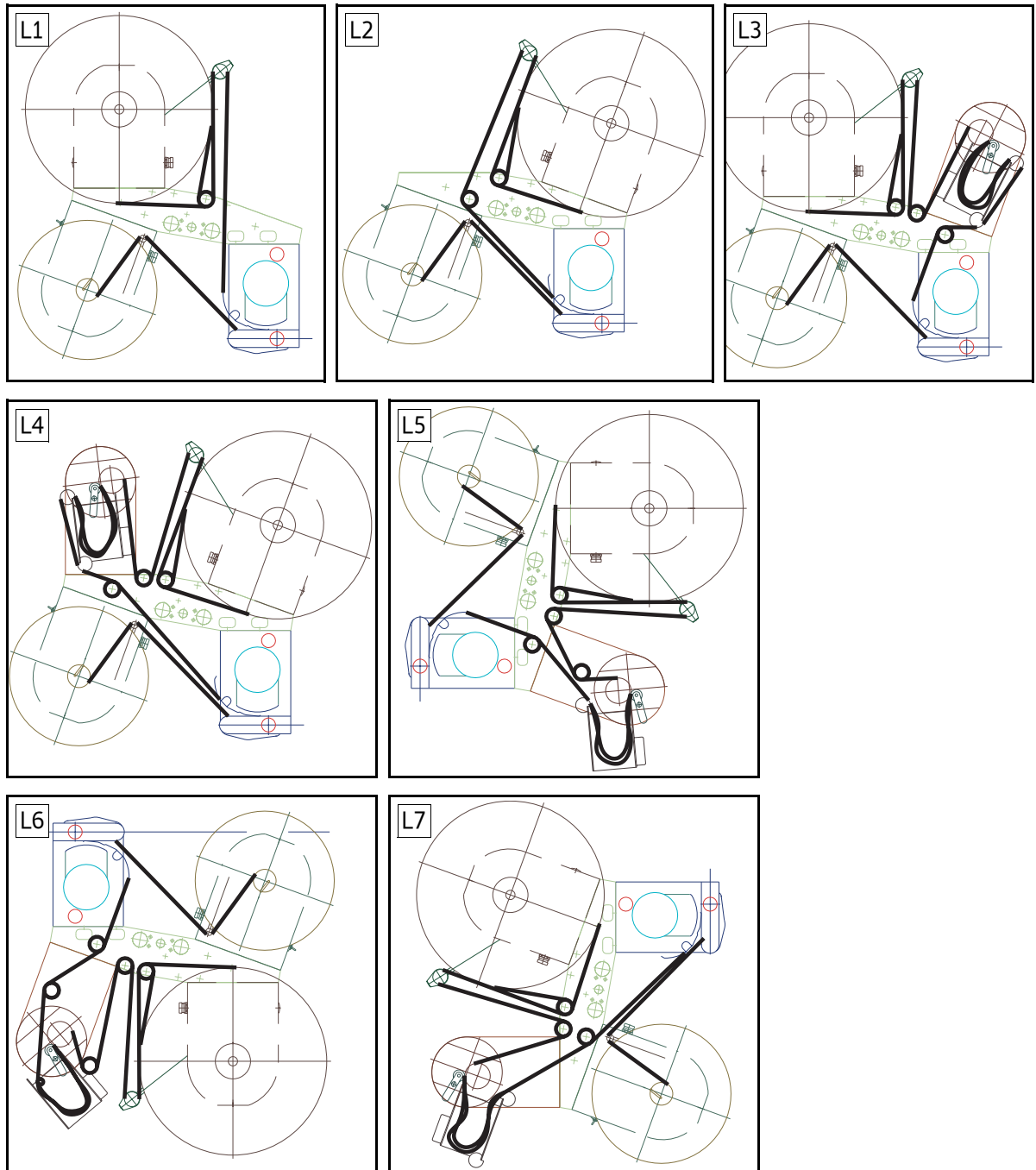
4.1.6 Left-hand applicator with dispensing plate with spring-loaded roller, 75° angular



Further to these standard layouts there are seven variants each when using the 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.

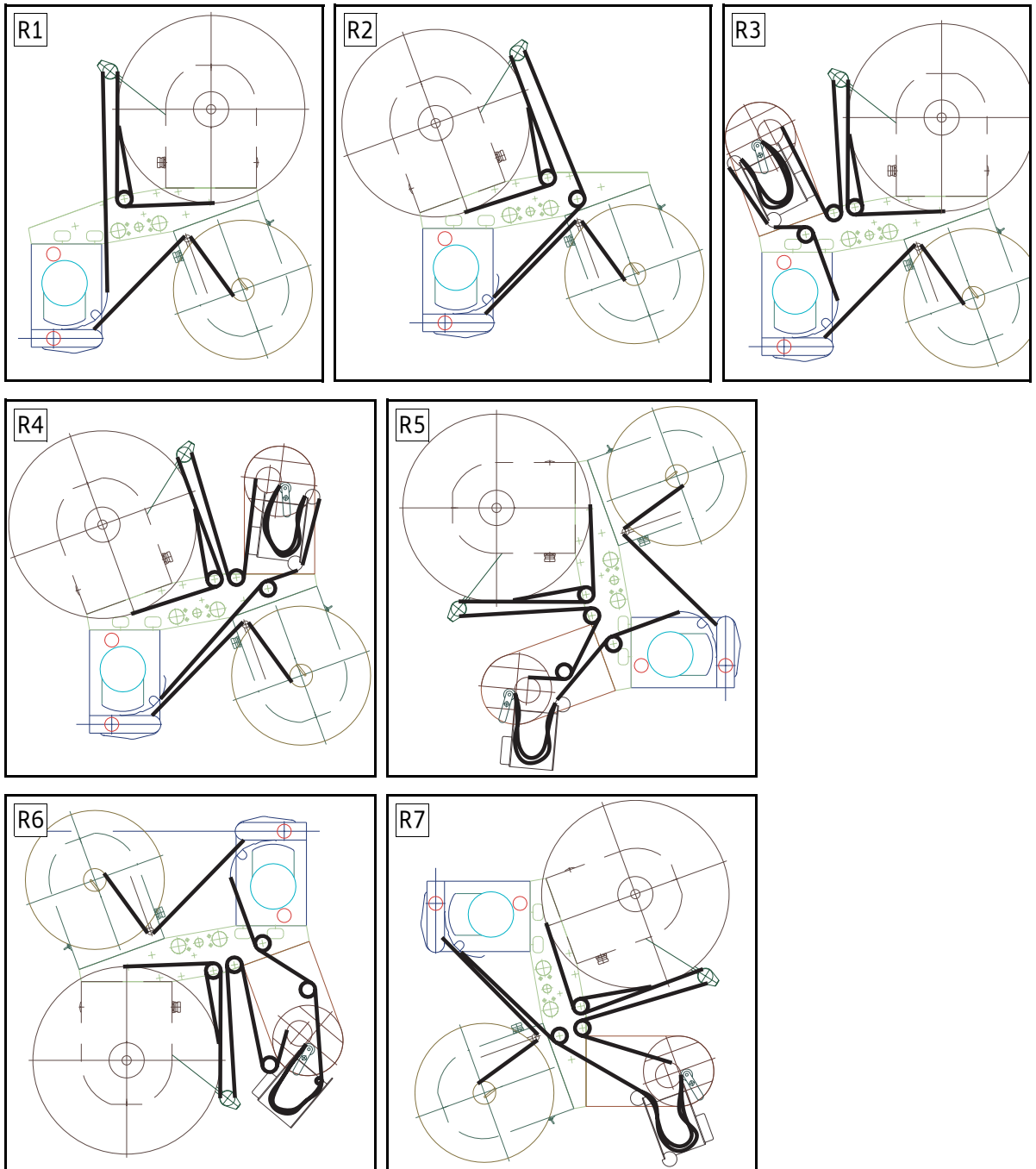
4.1.7 Winder system, left-hand applicator

*



* 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 6.2.2, 6.2.3 and 6.2.11.

4.1.8 Winder system, right-hand applicator





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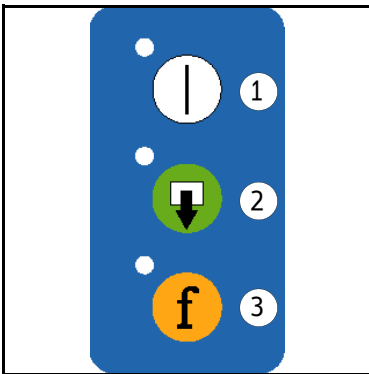
5 Putting into Operation and Operation



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



>Connect power plug with mains.



> Press switch-on key **1** at the applicator.
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 5.1.1.1 on page 25.












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.

5.1 Operation / Settings via the H400 control

CONVENTIONS

Elements of the H400 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 5.1.1.


5.1.1 Design


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).





5.1.1.1 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 *a/ways* 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).

f (2x)

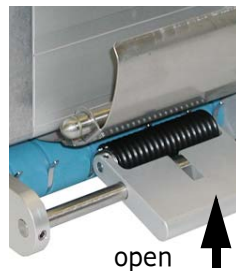
Printer ON/OFF

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.

f + **⏮**

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 5.3.3, page 32).

In order to stop the permanent run mode press one of the keys **f** 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.

f

Escape function in display menus

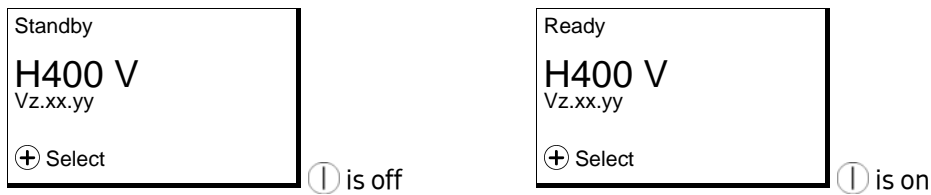
Pressing this key in a display menu will get you back to the next higher level, as far as to the basic display image (see section 5.1.1.2, page 27).
In the Edit mode (see section 5.3) any changes will be discarded.
Make sure to press the key **only once** since otherwise the status of the printer and 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.

5.1.1.2 Display

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



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

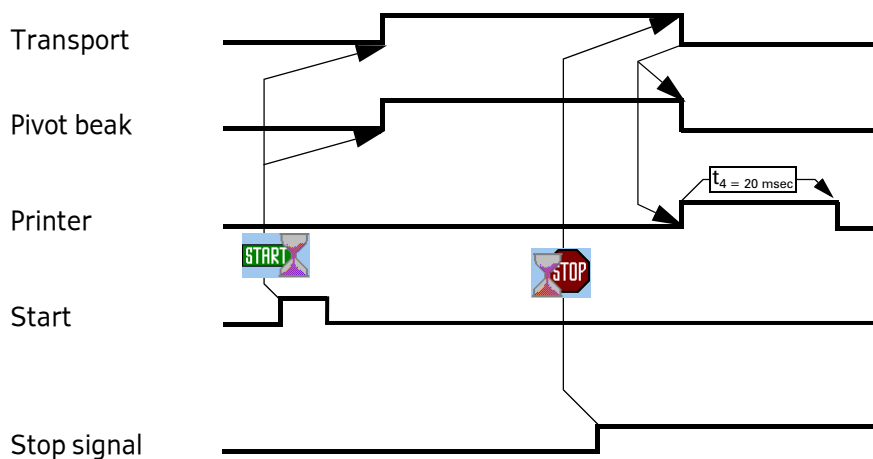
The current software version is indicated in the next line (this may be required by the Technical Service).

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

For a further description see section 5.3, page 30, and following.

5.1.2 Function diagram

Functions in the H400 applicator are as follows (pivot beak and printer are options):





START = Start delay, **STOP** = Stop delay

5.1.3 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 disc 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:

Trigger	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  .
Minimum transport	Calculating the label supply can be done not before at least approx. 4 m (157") of label web were transported (for triggering end of reel approx. 400 mm (16") are sufficient). This minimum transport must be effected each time after the applicator was switched off.
Warning	A warning (DIM signal) is triggered if the width of the label web falls below approx. 16 mm / 0.6" (diameter core (=76 mm/3") + label web is below approx. 108 mm / 4.3").
End of reel	End of reel (END signal) is triggered if the label supply is used up, however not before a minimum transport of approx. 400 mm / 16" (with preceding DIM signal after 150 mm / 5.9" already).
End of reel without signal	If with unfavourable condition end of reel cannot be calculated the applicator will stop with a series fault of the label sensor.

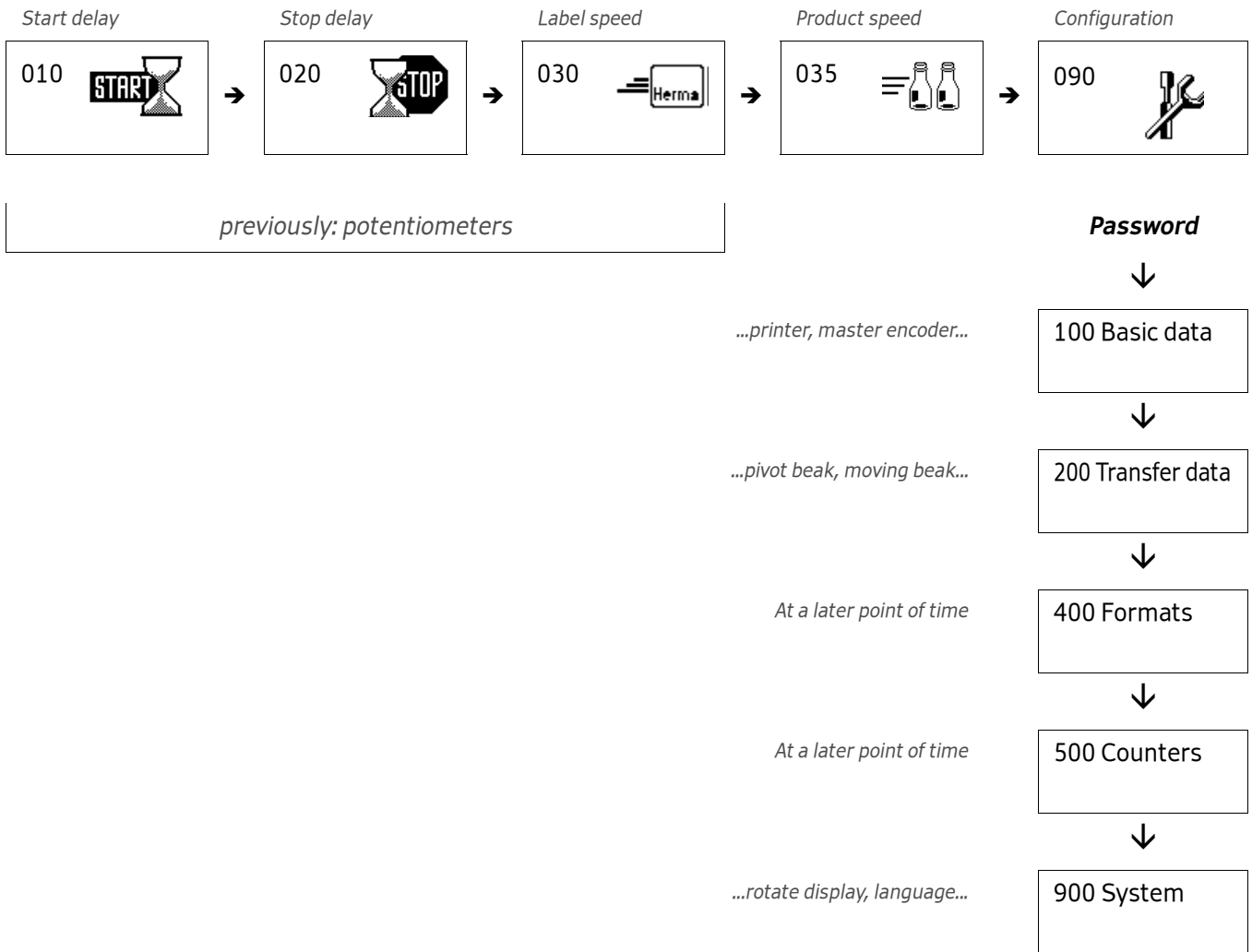
TESTING THE FUNCTION

- 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 4 m / 157" of web transport was effected).
- Insert a label reel with low label supply, at least, however, approx. 5 m / 197" of label web
- Dispense labels (observe above prerequisites (preferably transport labels via the START input instead of via the  key))


5.2 Overview display structure HERMA 400

Standby / Ready

 → Quick menu:








5.3 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 on, 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.

5.3.1 Start delay applicator (Quick Menu parameter)



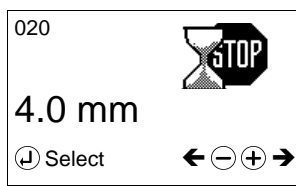
Range: **I**, **V** 0–120 mm, **VM** 0–400 mm, **P**, **PPS** 0–800 mm (no function with **F** and **E**)

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 labelling (section 5.5.3.16, 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.

5.3.2 Stop delay label (Quick Menu parameter)



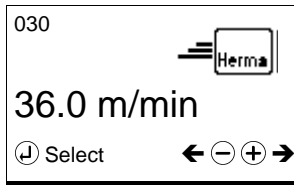
Range: **I**, **E**, **V** 0–60 mm, **VM**, **P**, **PPS** 0–400 mm (no function with **F**)

This value determines the **stop position of the label at the dispensing beak** (see „Positioning the label“ in section 6.2.5 or 6.2.6 (pages 56 / 58)). Note: if several labels are dispensed per labelling cycle this value might need to be decreased!

With activated twin labelling (section 5.5.3.16, parameter 160) there is a separate stop delay for both labels, indicated with a corresponding digit beside the symbol. With multi labelling 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.

5.3.3 Speed of the applicator (Quick Menu parameter)

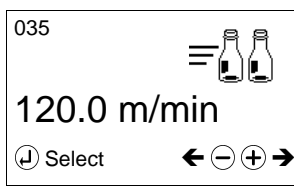


Range: **F** 4/8/12 m/min, **I** 3–20, **E** 3–30, **V** 3–40, **VM** 3–80, **P**, **PPS** 0–120 m/min

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).

5.3.4 Speed of the product (Quick Menu parameter, optional)



Range: Max. 2000.0 m/min.

With the help of this parameter the **speed of the product to be labelled** 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.

5.4 Potentiometers

Basic values of the applicator may optionally be adjusted via potentiometers as well. In that case these values can be adjusted via display only if the voltage at the analog input is less approx. 0.1V.

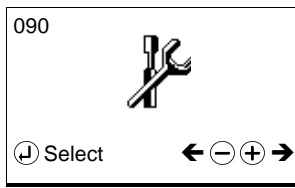
Expressed in other words: in order to be able to adjust these values via display potentiometers must be set to 0 (zero). If the voltage at the analog input is high enough this will be shown in the display:

Analog

instead of

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

5.5 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.



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

5.5.1 Calling up

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

5.5.2 Design

The configuration menu is divided up into several submenus:

- Basic data
- Transfer data
- Formats
- Counters
- System

5.5.3 Menu 100 Basic data

5.5.3.1 120 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.

5.5.3.2 121 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.

5.5.3.3 122 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.

5.5.3.4 123 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.

5.5.3.5 124 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.

5.5.3.6 125 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.

5.5.3.7 126 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.

5.5.3.8 115 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.

5.5.3.9 116 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 117 after pressing the  key.

5.5.3.10 117 Masterenc. transfer Start compensation

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 „**Production**“. With PWL2 only.

Here, the dead time / start compensation determined in parameter 116 will be entered and may be adjusted manually if needed. This value corresponds to the one in parameter 122.

5.5.3.11 140 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.

5.5.3.12 141 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).

5.5.3.13 142 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).

5.5.3.14 143 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).

5.5.3.15 144 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.

5.5.3.16 160 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.

5.5.3.17 161 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.

5.5.3.18 130 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.

Variable label length:

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.

5.5.3.19 131 Mark field 1

This parameter will appear only if parameter 130 is set to „01 Sensor mark“. With PWL2 only.

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

5.5.3.20 132 Mark field 2

This parameter will appear only if parameter 130 is set to „01 Sensor mark“. With PWL2 only.

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

5.5.3.21 133 Mark field 3

This parameter will appear only if parameter 130 is set to „01 Sensor mark“. With PWL2 only.

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

5.5.3.22 134 Stop inhibit distance

This parameter will appear only if parameter 130 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.

5.5.3.23 135 Hole inhibit distance

This parameter will appear only if parameter 130 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).

5.5.3.24 190 Printer on/off

This parameter will appear only if parameter 930 (available only for Technical Service) is set to „01 Interface + f-button“.

Switch the optional printer on or off.

5.5.3.25 194 Printer Start delay

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

5.5.3.26 195 Printer Print time

The time given for one print process.

5.5.3.27 196 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).

5.5.4 Menu 200 Transfer data

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 (roller): 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 (**P** / **PPS** only).

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

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

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

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 Pivot 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“.—————

5.5.4.1 210 Pivot beak on/off

Switch the optional pivot beak on or off.

5.5.4.2 211 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.

5.5.4.3 212 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.

5.5.4.4 213 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.

5.5.4.5 214 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.

—————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)).—————

5.5.4.6 225 Moving beak Label start delay

The delay as of starting the moving beak until the label transport is activated. For optimising the labelling process you may for certain applications want to start the label transport even before the beak reaches its operational position.

5.5.4.7 227 Moving beak 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.

5.5.4.8 229 Moving beak 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.

5.5.4.9 236 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.

5.5.4.10 237 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.

5.5.4.11 238 Transfer unit Blow

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

5.5.4.12 239 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.

5.5.4.13 239 Transfer unit After blow

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

5.5.4.14 280 Label check on / off

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

5.5.4.15 284 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.

5.5.4.16 285 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.

5.5.4.17 286 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.

End of parameters for moving beak and/or telescope

5.5.5 Menu 400 Formats

Not available yet.

5.5.6 Menu 500 Counters

Not available yet.

5.5.7 Menu 900 System**5.5.7.1 910 Rotate display**

Rotate the display by 180° if required.

5.5.7.2 911 Contrast

Adjust the display's contrast as desired for a better readability.

5.5.7.3 912 Sprache / Language

Set the display's language to German or English.

5.5.7.4 950 Bus address (RS485)

With PWL2 only.

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

5.5.7.5 952 Display add. output

With PWL2 only.

For Technical Service only.



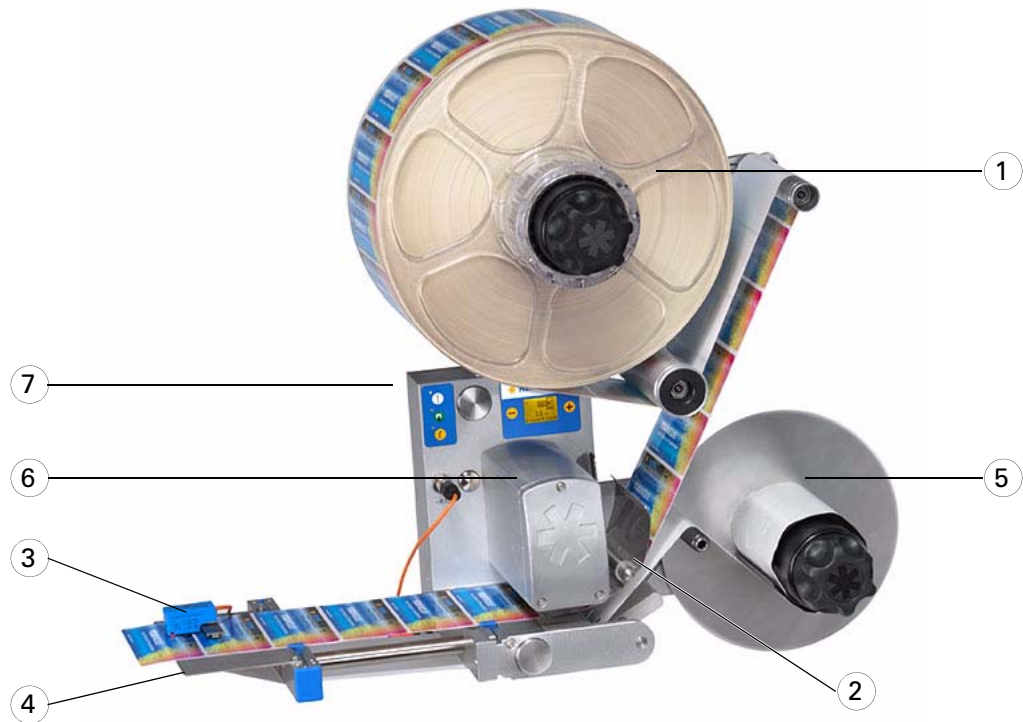
Labelling Systems

www.herma.com

mail@herma.de

6 Overview and sub-assemblies

6.1 Overview



Sub-assemblies:

1. Unwinder (alternatively: motorized unwinder)
2. Label web brake
3. Label sensor (here: FS01; alternatively: e.g. optoelectronic sensor)
4. Dispensing system (here: rigid dispensing plate; alternatively: e.g. pivot beak)
5. Backing paper take-up unit (here: standard; alternatively: motorized)
6. Drive unit
7. Housing

The applicator shown above is a configuration example and may differ from the version delivered.

6.1.1 Function

The labeller intermittently 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. The labeller's control is integrated in the drive unit.

6.2 Sub-assemblies

In this chapter you will find an overview of the applicator HERMA 400 and its sub-assemblies.

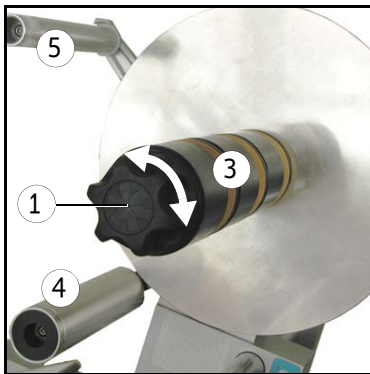
Usually there are variants for the individual sub-assemblies, e.g. standard reel holder or motorized unwinder (each with or without loop-type unwinder), standard or motorized backing paper take-up unit, label sensor FS01 or forked light barrier etc.

The variants used in your applicator you will take from the pictures and illustrations in the corresponding chapter. Due to the clear distinctions between the variants you will not be able to confuse one variant with the other.

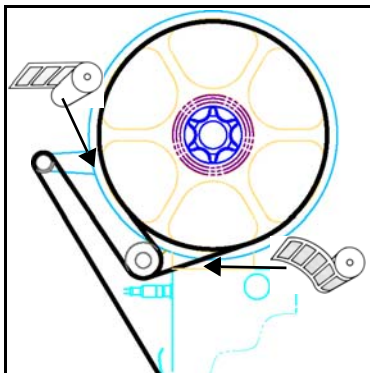
6.2.1 Standard unwinder



INSERTING THE LABEL WEB

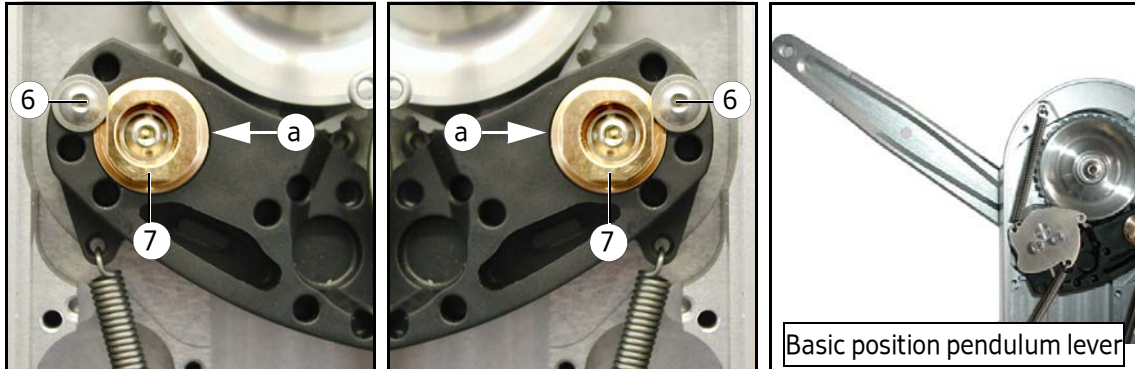


- > Turn handle **1** completely to the left (maximum of five steps) to unclamp the unit.
- > As the case may be, retract counter holder **2** (vertical versions only).
- > Put label reel over core sleeve **3** and guide label web over reversing roller **4** and pendulum **5** such that labels face downwards (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)

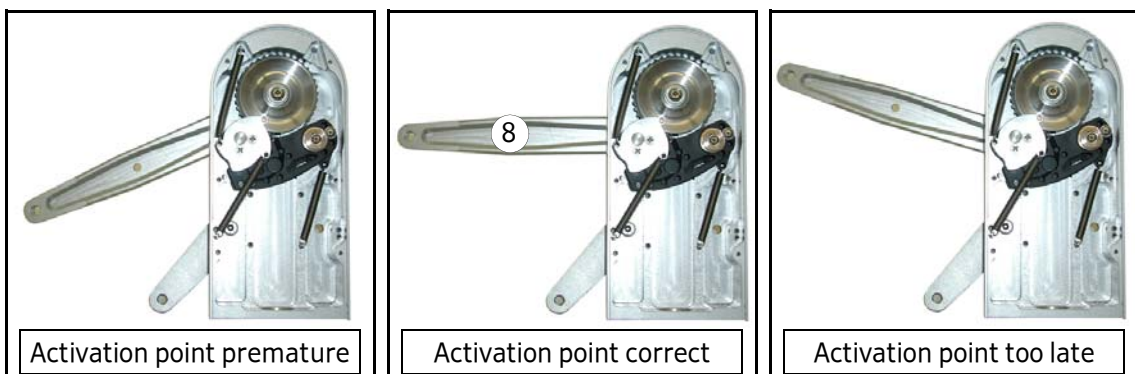
The point of activation of the unwinder's reel brake is factory-set and usually does not have to be changed. If however the label reel is too loose (activation point too late) or only moves at strong pull (activation point premature) a new basic adjustment is required.
An irregular adjustment of the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



- > 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.

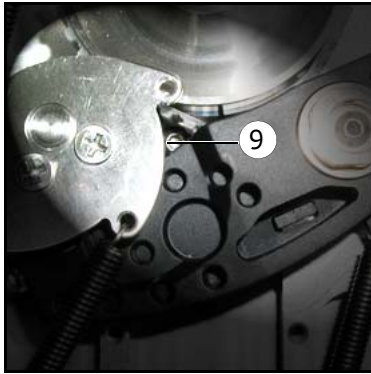
The point of activation of the reel brake is adjusted correctly if pendulum lever **8** is about perpendicular (90°) to the housing when braking starts to work.

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

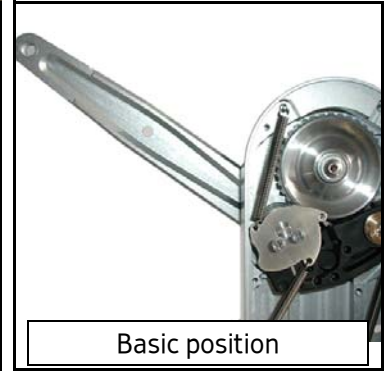
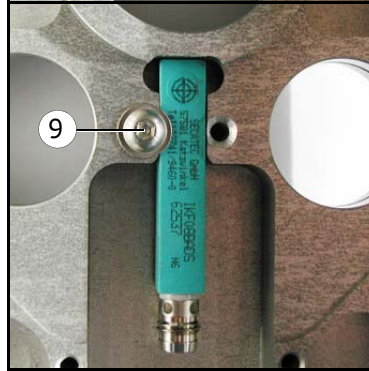


REPLACING THE PROXIMITY SWITCH

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

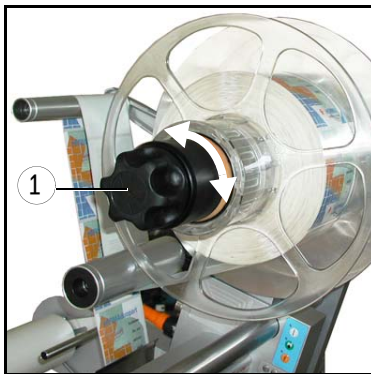


- > After opening the cover loosen screw **9** on the back (do not remove!). Take out the proximity switch and insert a new one. Fasten screw **9** afterwards.
Screw **9** is accessible if the pendulum lever is in its basic position.

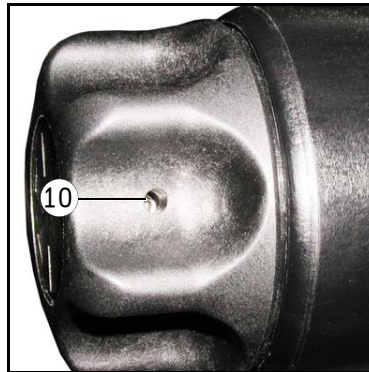


REPLACING THE HANDLE

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:

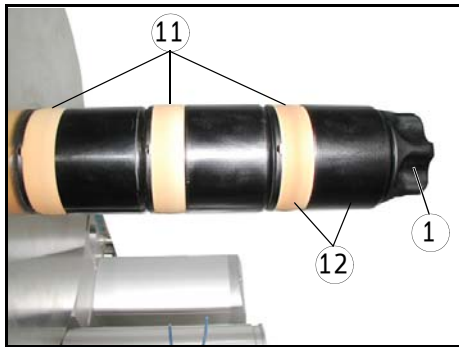


- > Turn handle **1** completely to the left (maximum of five steps) to unclamp the unit and make screw **10** accessible. Loosen screw **10** (do not remove!), retract the handle, insert new handle and fasten screw **10** afterwards.

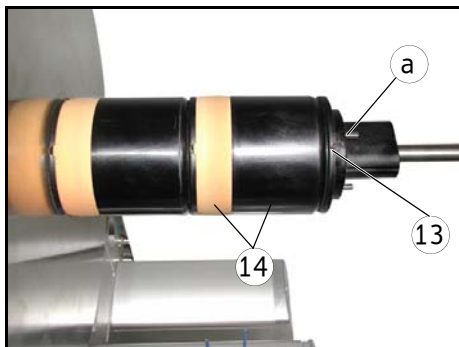


REPLACING THE TENSION RINGS

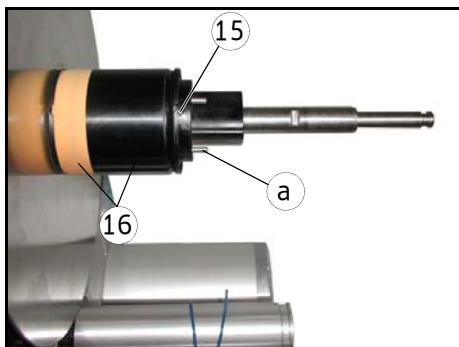
If after a long time of use tension rings **11** are worn proceed as follows when preplacing the worn rings (example with constructional width 16, vertical applicator):



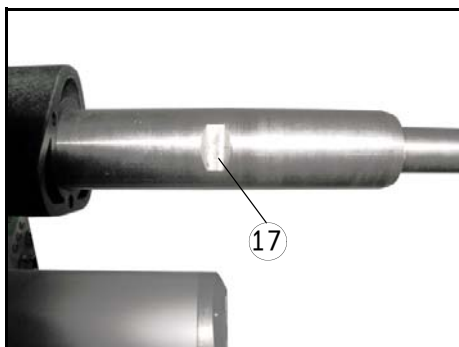
- > Remove handle **1**, as described above („Replacing the handle“).
- > Pull off parts **12**.



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

6.2.2 Motorized unwinder



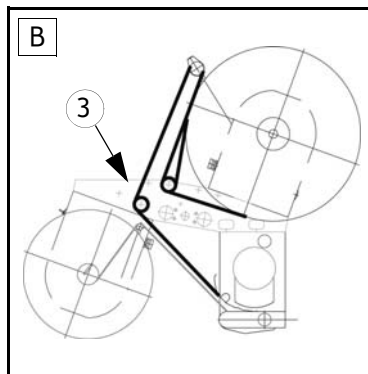
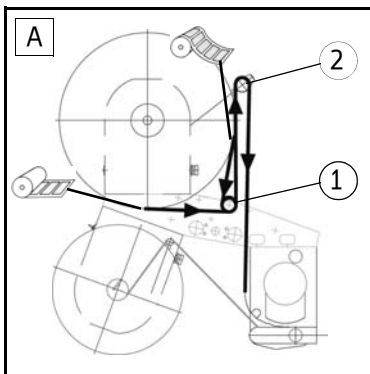
INSERTING THE LABEL WEB



Due to the versatility of the winder system its components can be arranged differently – depending on where to mount them. For this reason the label web path can slightly vary. Therefore you will find the most common arrangements on pages 20 and 21.

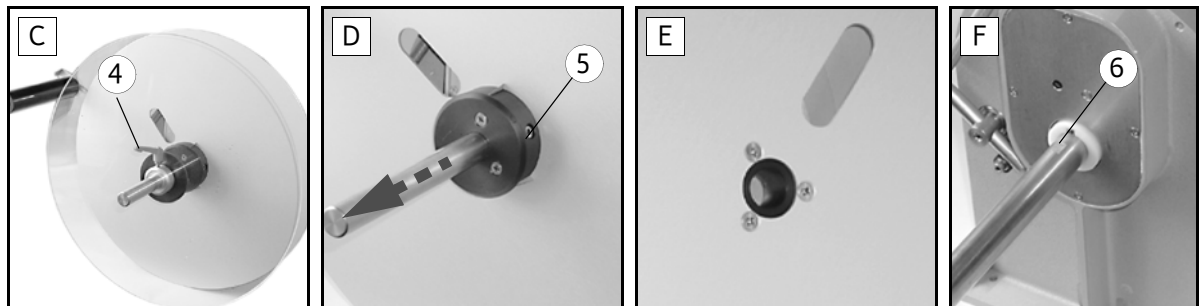
If using the core sleeve with tension rings take note of the explanations in section 6.2.1 as of page 45.

- > If required, remove the counterholer (vertical mounting).
- > Insert the label reel such that the labels reach the dispensing beak in the correct position. Use the suitable core sleeve.
- > **A:** First guide the label web around the lower reversing roller **1** and then around pendulum **2** to the following sub-assembly (here: basic unit with label web brake). Depending on the situation further deflection of the web may be required (e.g. **3**, fig. **B**).



CHANGING THE CORE SLEEVE

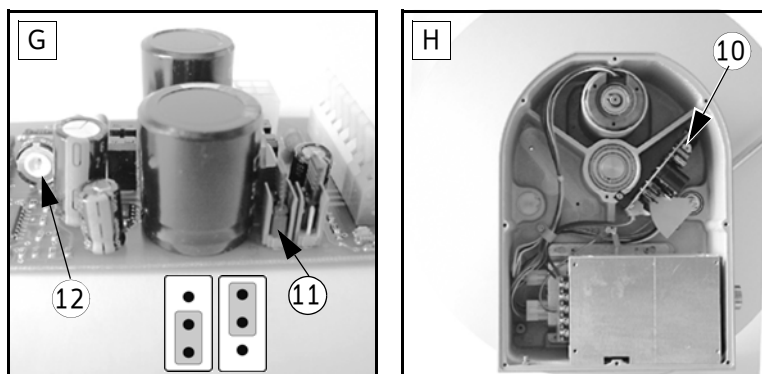
For the use of label reels with different core diameters suitable core sleeves can be ordered as per the spare parts list.



- > Remove counterholder. To do this, loosen clamping lever **4** and pull off the holder (fig. **C**).
- > Remove the disk with core sleeve after loosening screw **5** (fig. **D**).
- > Loosen three screws on the back of the disk (fig. **E**) and change core sleeve.
- > On mounting the disk with core sleeve make sure that the screw **5** is aligned with the flat surface **6** (fig. **F**)

CHANGING THE SENSE OF ROTATION

- > **G**: If the label winding changes (from outside to inside winding, or vice versa), the sense of rotation of the unwinder must be changed as well, via jumper **11** („X3”) on the circuit board **10**.



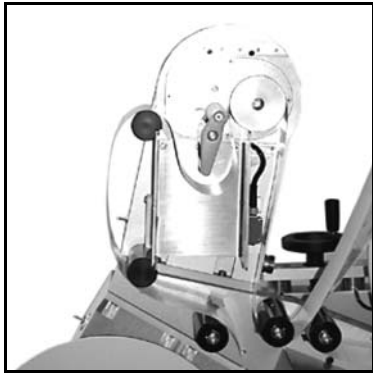
i

With some configurations the sense of rotation can be changed with a toggle switch at the outside of the unwinder's housing.

CHANGING THE SPEED

- > **G/H**: The speed of the unwinder can be changed each via potentiometer **12** on the corresponding circuit board **10**.
- > A rule of thumb is: for an optimum labelling result choose the speed of the unwinder as high as needed, but as low as possible. The maximum speed required should be set with a minimum reel diameter (near the core diameter) and a pendulum that is swung out far. Adjust the speed of the transport roller of the loop unit (if any) correspondingly thereafter. See page 53.

6.2.3 Loop-type unwinder

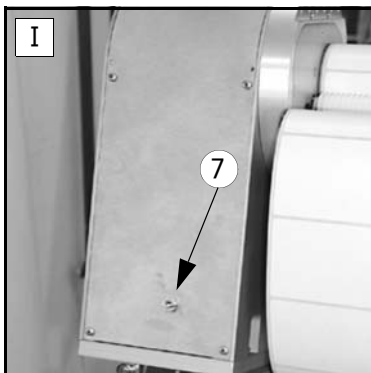


SWITCHING OFF THE LOOP UNIT



- > **I:** If the sensor for the loop control is free, that means e.g. no label web is inserted, the drive of the transport roller is set to „permanent run“!
You can switch off the drive with the help of toggle switch **7** at the side of the housing.

If this switch is missing, the loop control is managed by a superordinate control..

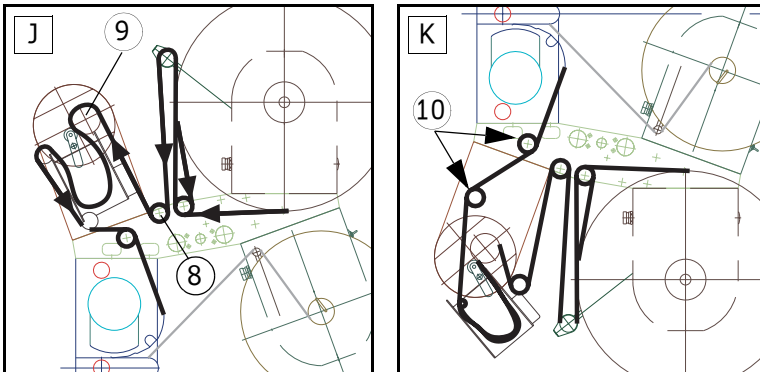


INSERTING THE LABEL WEB

i

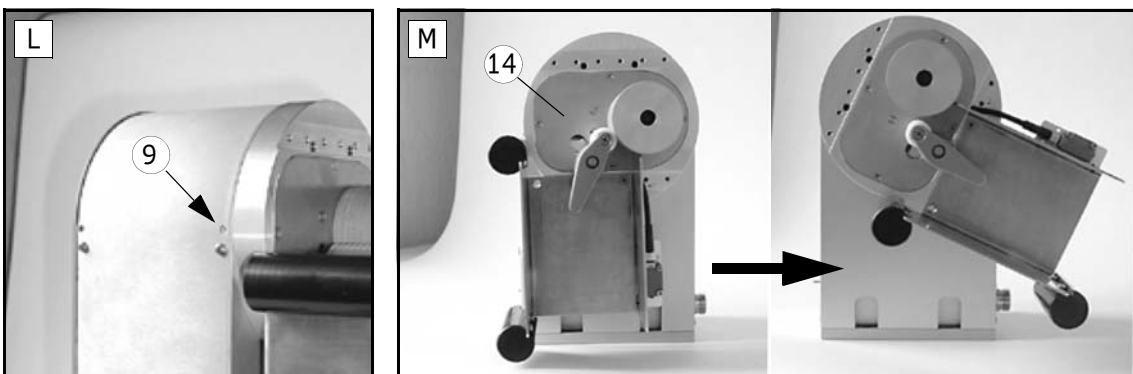
Due to the versatility of the winder system its components can be arranged differently – depending on where to mount them. For this reason the label web path can slightly vary. Therefore you will find the most common arrangements on pages 20 and 21.

- > **J:** Guide the label web from the second reversing roller **8** to the transport roller **9** and around this (lift pressing roller). Create a loop with the label web and guide the web out of this unit to the following sub-assembly (basic unit with label web brake). Depending on the situation further deflection of the web may be required (e.g. **10**, fig. **I**).

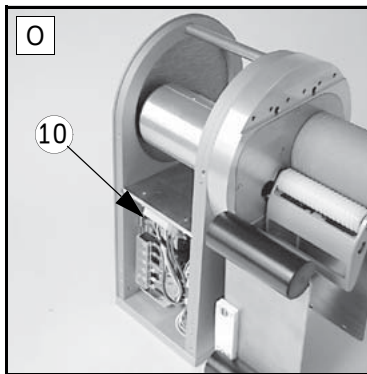
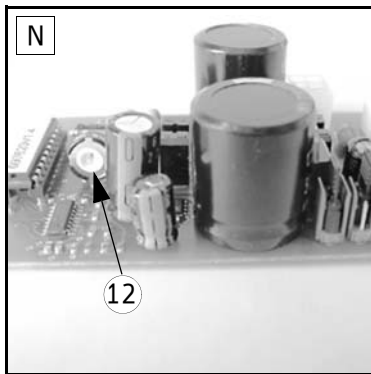


ALIGNING THE LOOP UNIT

- > **L, M:** When mounted vertically the loop unit should be aligned such that the loop shaft is vertical, too. If required, the unit **14** is to be turned: Loosen screws **9** on both sides, turn the entire unit **14** and fix this new position with screws **9**.



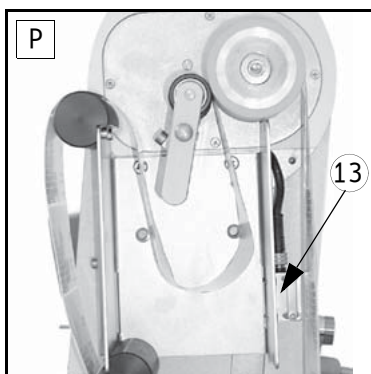
CHANGING THE SPEED



- > **N, O:** The speed of the loop-type unwinder can be changed via potentiometer **12** on the circuit board **10**.

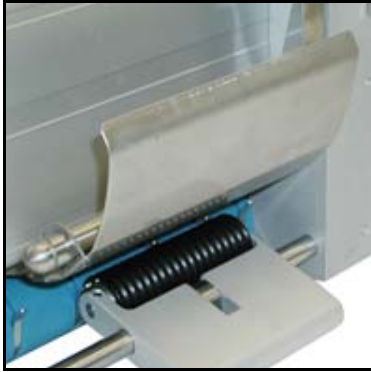
The speed of the transport roller of the loop unit ist to be adapted to the speed of the unwinder (if any). See page 50.

ADJUSTING THE LOOP CONTROL

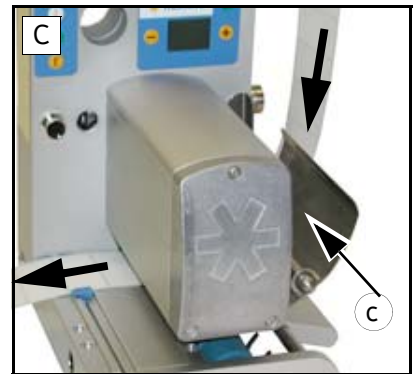
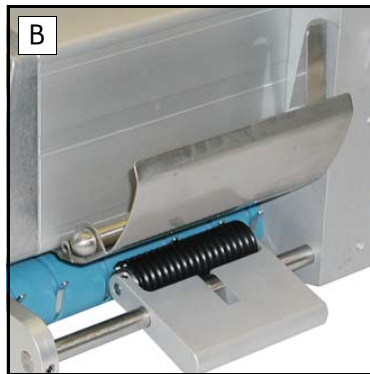
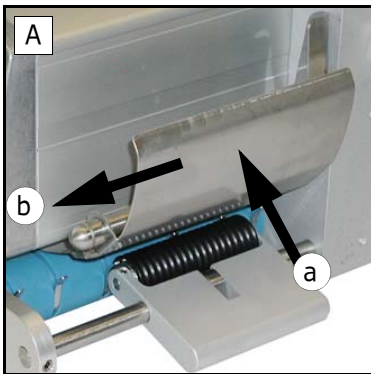


- > If the label material changes (e.g. transparent labels) the sensor **13** for the loop control may need adjustment. For further information see the separate manual of the sensor.

6.2.4 Label web brake

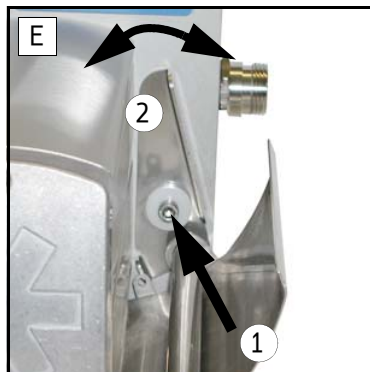
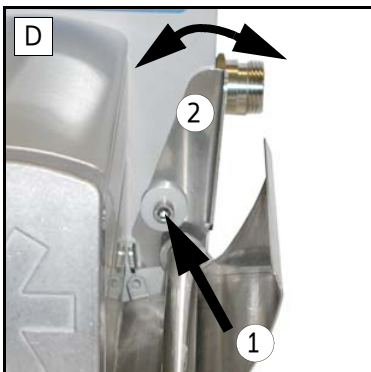


INSERTING THE LABEL WEB



- > **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.

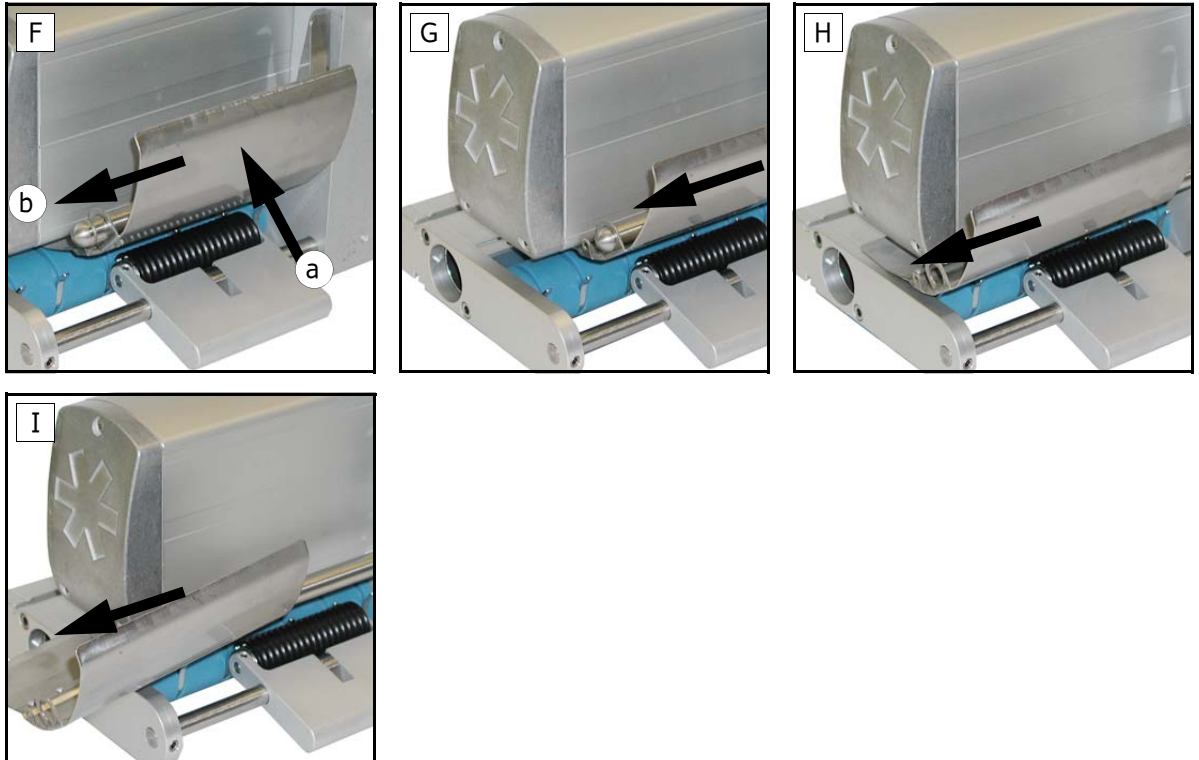
ADJUSTING THE BRAKING PRESSURE



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

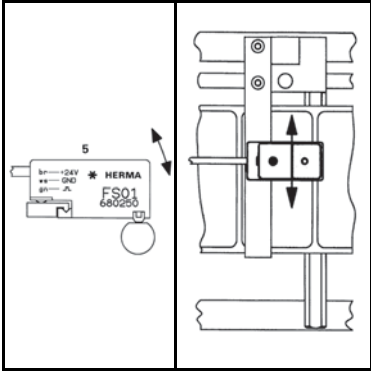


- > **F:** Push brake plate towards direction **a** to disengage it and at the same time towards direction **b** to loosen and fully retract it (**G-I**).
Clean brake plate. After cleaning push brake plate back to position and depress until it engages.

6.2.5 Label sensor FS01

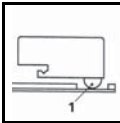
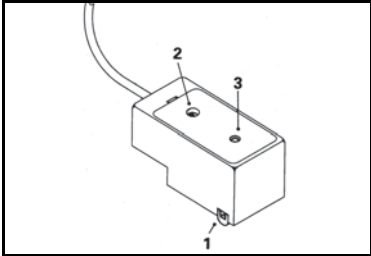


CROSS ADJUSTMENT

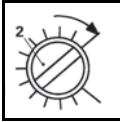


> Slightly lift sensor 5 at the front and slide into the desired position.

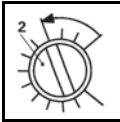
SWITCH POINT ADJUSTMENT (only if sensor is built in)



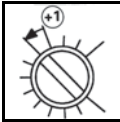
> Position the pink ridge 1 of the sensor on the backing paper between two labels.



> Turn potentiometer 2 clockwise to the limit.
(680295*: turn counterclockwise.)



> Turn it counterclockwise slowly thereafter until LED 3 goes out.
(680295*: turn clockwise.)



> Then turn potentiometer further approx. 20° (one graduation mark).

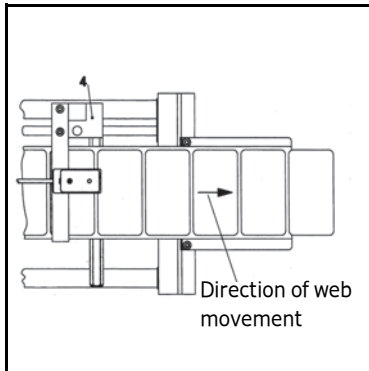
* for electrically conductive labels (metallized or aluminium-covered)

BASIC ADJUSTMENT

This unit is factory set; required only if adjustment range is insufficient.

For adjustment turn potentiometer **2** to middle position, open upper snap cover of sensing unit and adjust with the **second** potentiometer as described on the previous page.

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 labelling 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 **4** in or opposite to the direction of the label movement.

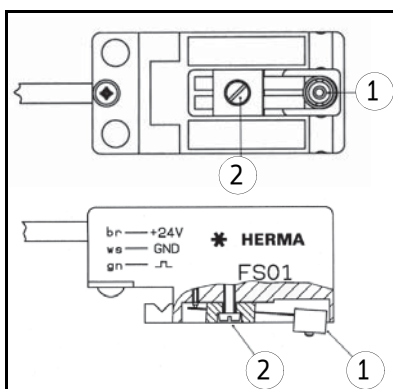
This positioning is also called „label overfeed delay“ or „stop delay“. With some configurations this delay is set via potentiometer at the applicator housing (see also section 5.1.1.2 / page 27) or in the control box or even via parameter in the control program (where applicable).

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



Important: When using the label sensor HERMA-FS01 only sensors with material no. 680290 for non-metallised labels or no. 680295 for metallised labels may be used.

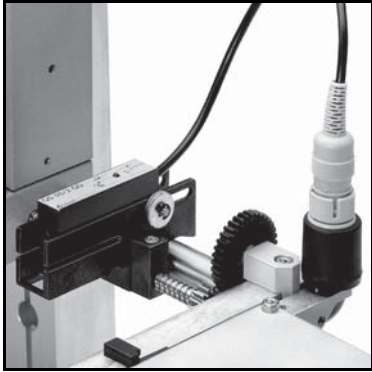
REPLACING THE SENSING HEAD



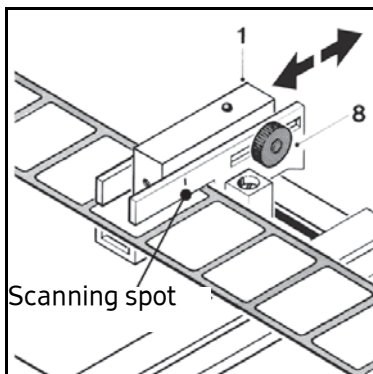
Sensing head **1** can be replaced after loosening screw **2**.

Basic adjustment may be required to be repeated thereafter (see **BASIC ADJUSTMENT**).

6.2.6 Label sensor optoelectronic

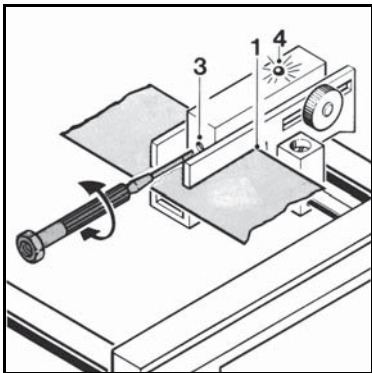


CROSS ADJUSTMENT



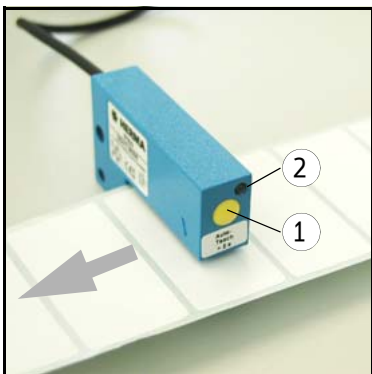
- > Loosen knurled nut **8**.
- > Move scanning spot of photoelectric cell **1** (see locating mark) over passing label web.
- > In case of round labels the scanning spot should be positioned over the label centerline.

SWITCH POINT ADJUSTMENT (SENSOR *WITHOUT* TEACH FUNCTION)



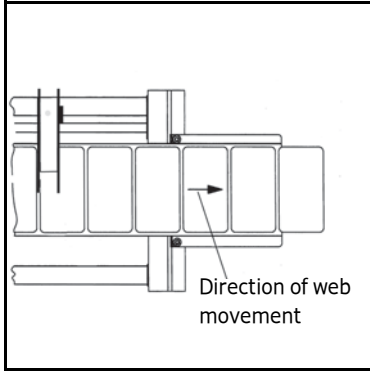
- > Turn adjusting screw **3** counterclockwise until light-emitting diode **4** goes out. (without backing paper)
- > Pass backing paper through slot of photoelectric cell **1**.
- > Turn adjusting screw **3** clockwise until light-emitting diode lights up.
- > Turn on one more circle.

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.
- > The teach procedure is completed successfully if LED **2** flashes 2x. If LED **2** flashes 4x we recommend to repeat the teaching procedure.

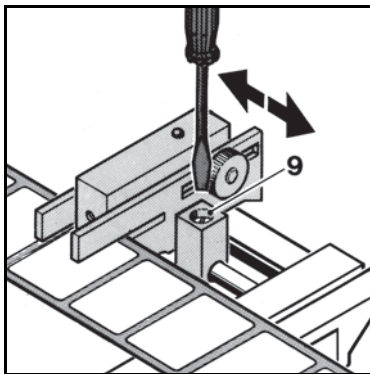
POSITIONING THE LABEL



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 labelling 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.

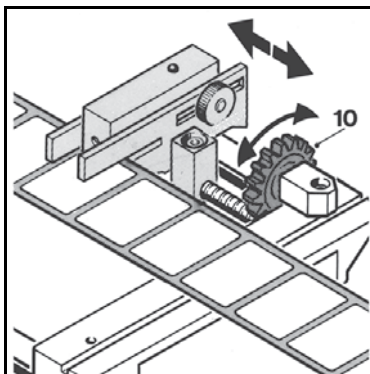
This positioning is also called „label overfeed delay“ or „stop delay“. With some configurations this delay is set via potentiometer at the applicator housing (see also section 5.1.1.2 / page 27) or in the control box or even via parameter in the control program (where applicable).

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**.

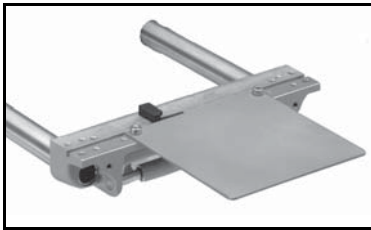
6.2.7 Dispensing systems



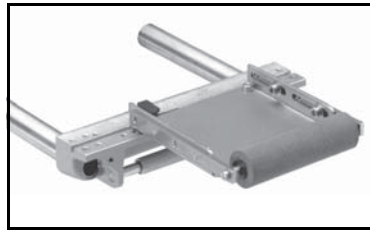
Explanations / Illustrations for threading the label web you will find in chapter 4.

6.2.7.1 Rigid/Straight dispensing plates

Dispensing plate straight



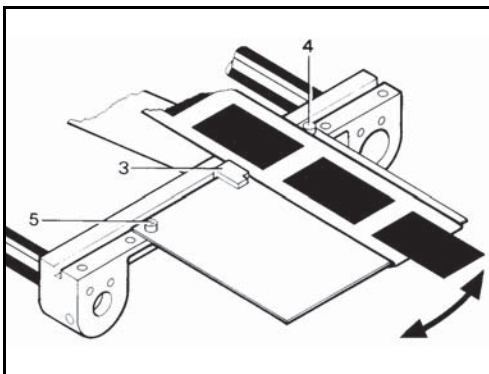
Dispensing plate straight, with application roller



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**.

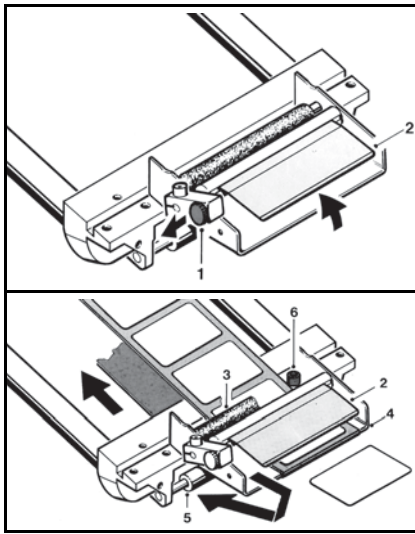
With the dispensing plate with application roller make sure the distance between application roller and dispensing plate is less than one label length



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

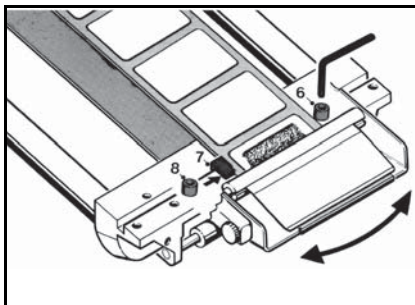
6.2.7.2 Dispensing plate, 15° angular

INSERTING THE LABEL WEB



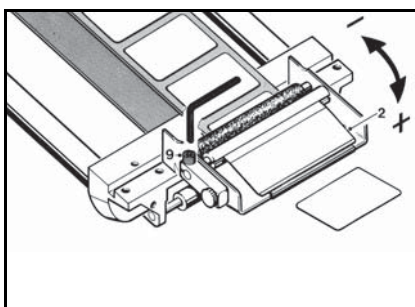
- > Pull snaplock **1**. Fold up holding-down plate **2**.
- > Pass label web below guide roller **3** and holding-down plate **2**. Run backing paper back around the dispensing plate **4** and guide roller **5**.
- > Make sure the label web is in contact with screw head **6**.

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.

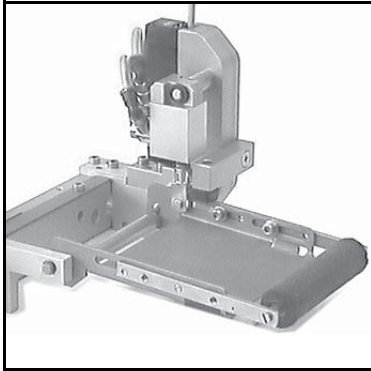
ADJUSTING THE HOLD-DOWN PRESSURE



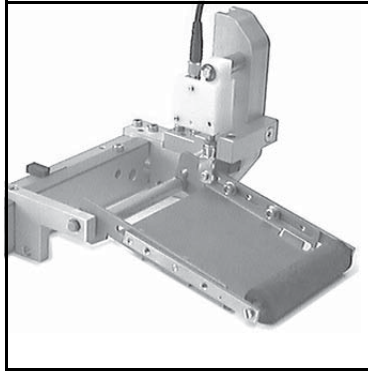
- > Loosen screw **9**.
- > Turn holding-down plate **2** down (+) or up (-) until label web passes below the braking plate smoothly but with perceptible resistance.
- > Tighten screw **9**.

6.2.7.3 Pivot beak / Application unit

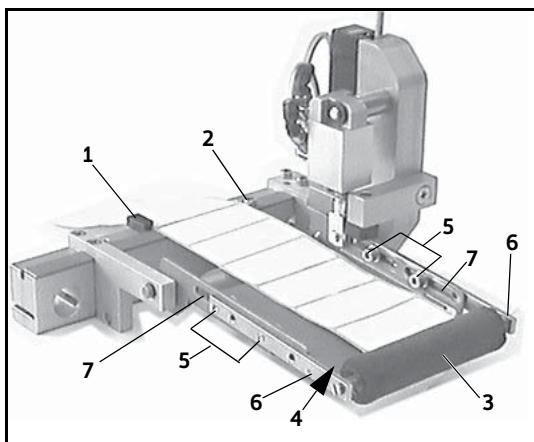
Pivot beak



Application unit

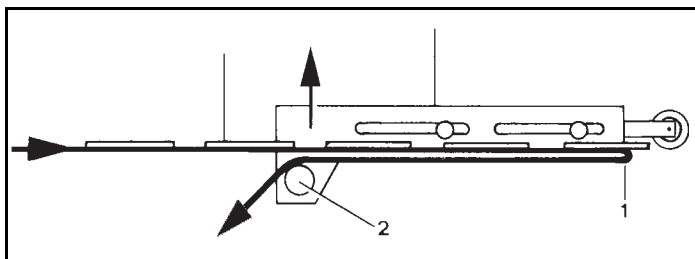


ADJUSTING THE PIVOT BEAK / THE APPLICATION UNIT



- > 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



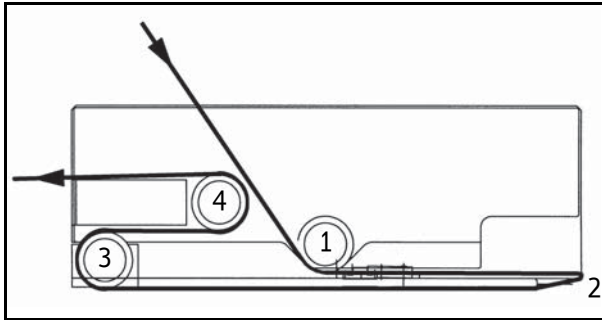
- > Remove the guide roller **2** plus axle in the direction of the arrow and clean..

6.2.7.4 Moving beak



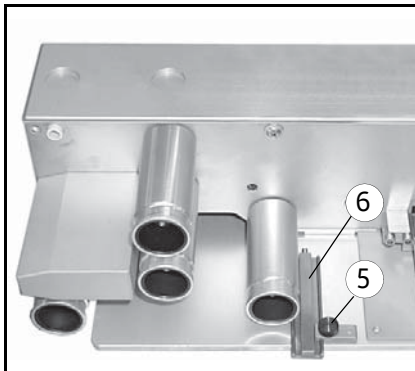
Caution: Pneumatic working pressure must not exceed 5 bar.
Danger of crushing!

INSERTING THE LABEL WEB



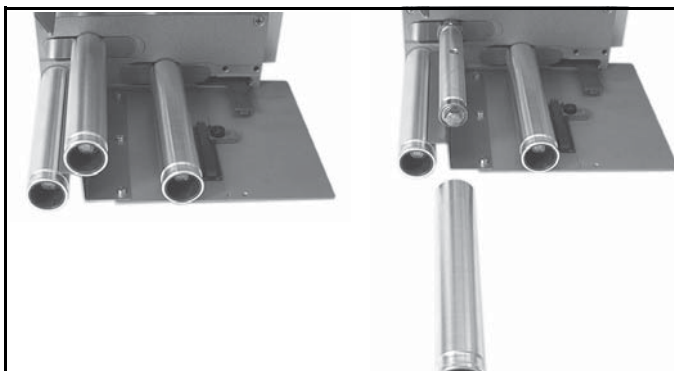
> Pass the label tape around guide roller **1**, towards the dispensing plate **2** and around the front edge. Run it back to the idling guide roller **3** (before going on, remove all unused labels from the backing paper from point **2** onwards). Pass the backing paper around roller **3**, pull it 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 tape, 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 tape 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 6.2.5 / 6.2.6 (page 57 / 59).

6.2.8 Transfer systems

6.2.8.1 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.
Danger of crushing!

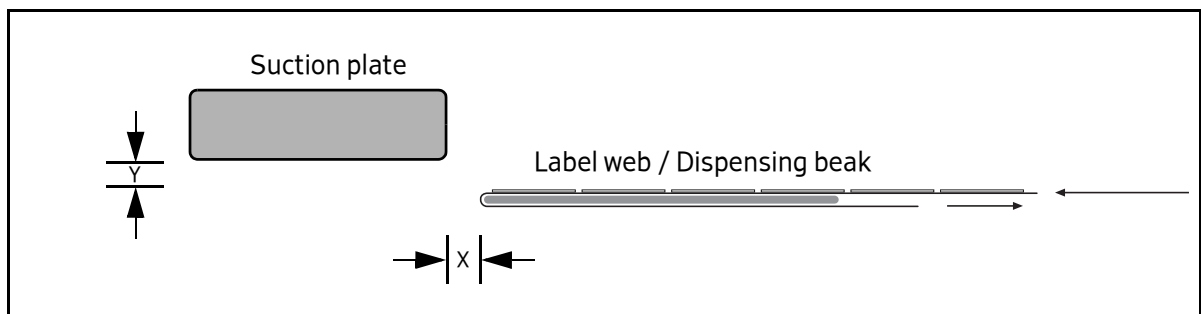
POSITIONING THE LABEL ON THE SUCTION PLATE



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).



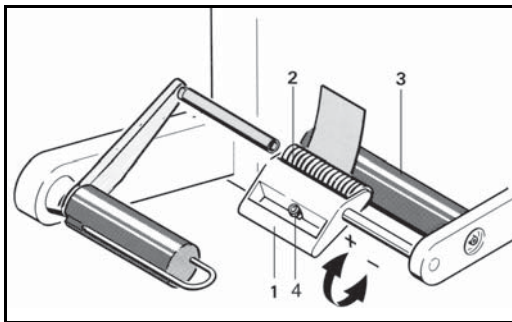
Adjustments are made – depending on the version used – by means of spindles (with or without hand cranks).

6.2.9 Drive/Transport roller



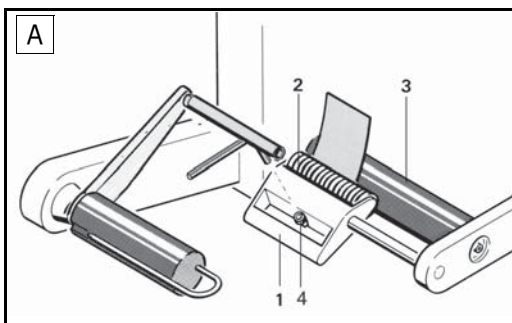
Caution: Do not reach into the area where the feed roller draws in the web when machine is on!
U.K. only: Do not remove the nip roller guard.

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.

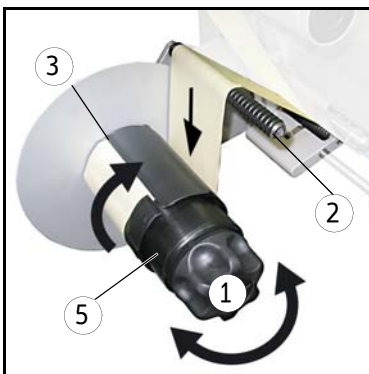
CLEANING

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

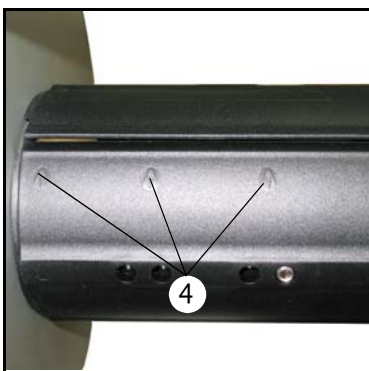
6.2.10 Backing paper take-up unit standard



INSERTING THE BACKING PAPER

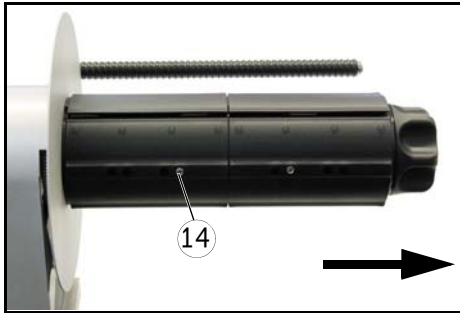


- > Turn handle **1** completely to the left (maximum of five steps) to unclamp the unit.
- > Run backing paper around bar **2**.
- > Run backing paper around the take-up roll and insert into slit **3**. The backing paper should be inserted on a length of approx. 8 cm / 3" at least. Correct direction 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**.

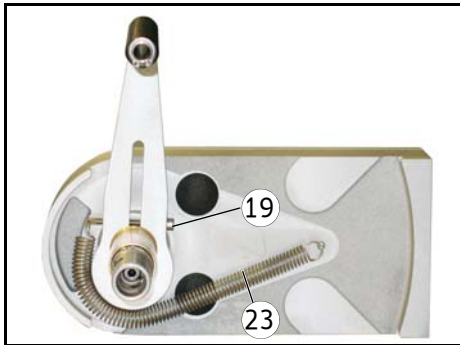


BASIC ADJUSTMENT OF THE LEVER

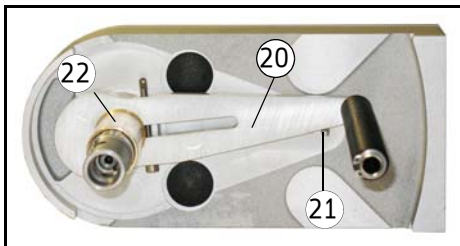
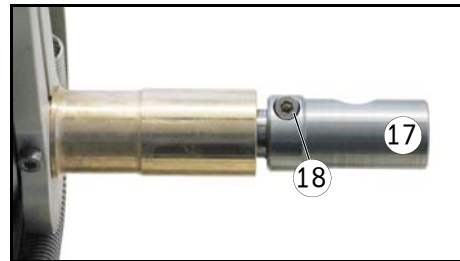
If after a very long time of use rewinding does not function reliably anymore proceed as follows when effecting the basic adjustment:



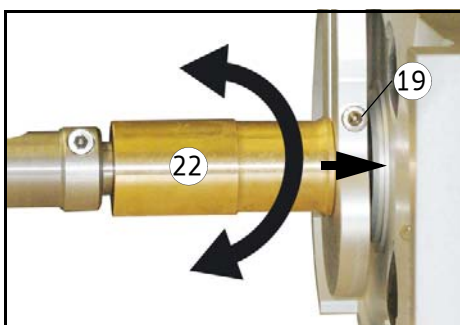
> Remove take-up roll (roll including disc) after loosening screw **14**.



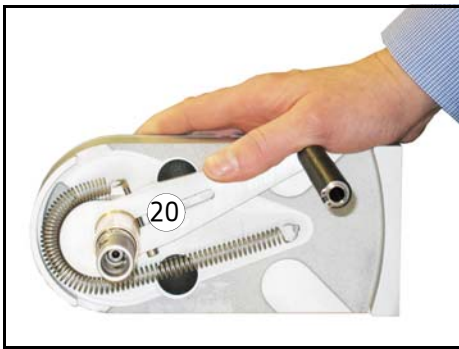
> Unhook spring **23**.
> Loosen screw **19** and clamping screw **18** (do not remove!).



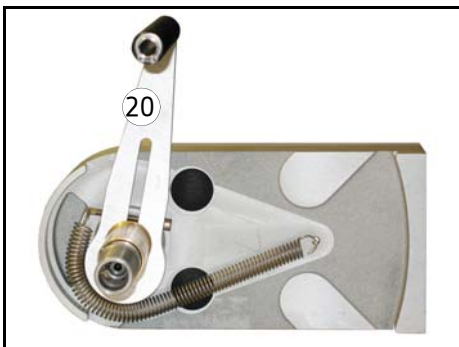
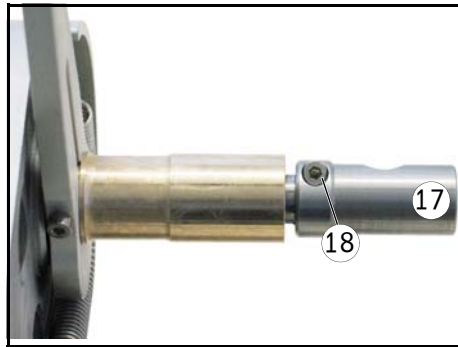
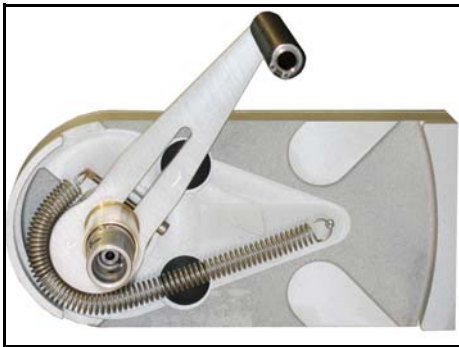
> Deflect lever **20** up to bolt **21** (where the spring is hooked onto).



> 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.



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

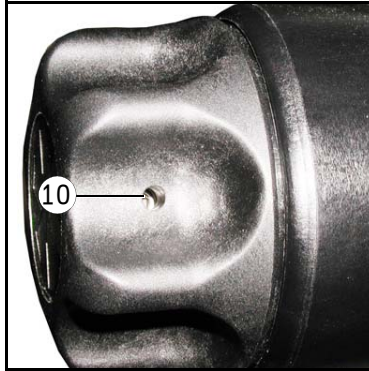
If you deflect and let go of the lever several times after having adjusted it this way it must stand still when guided back (not letting go from a deflected position) at a position of max. 90° .

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:

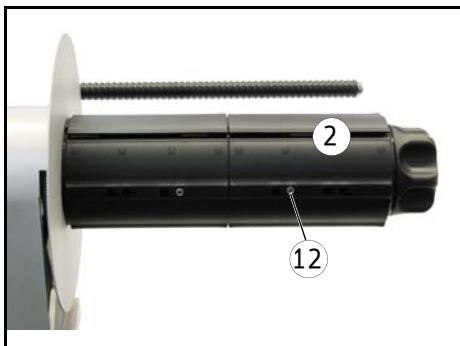


- > Turn handle **1** completely to the left (maximum of five steps) to unclamp the unit and make screw **10** accessible. Loosen screw **10** (do not remove!), retract the handle, insert new handle and fasten screw **10** afterwards.

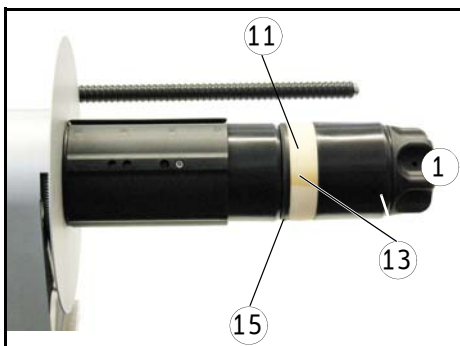


REPLACING THE TENSION RINGS

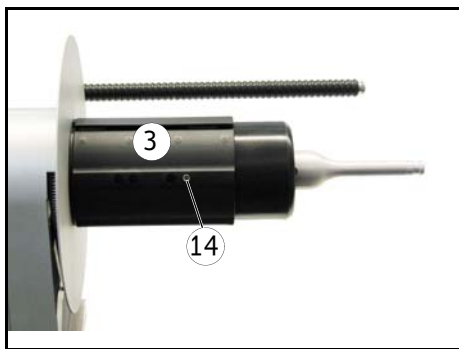
If after a very long time of use tension rings **11** are worn proceed as follows when preplacing the worn rings (example with constructional width 24):



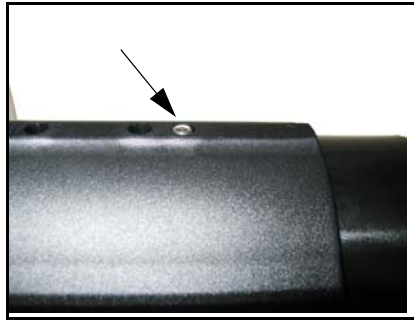
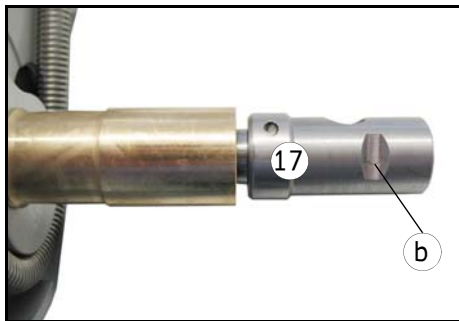
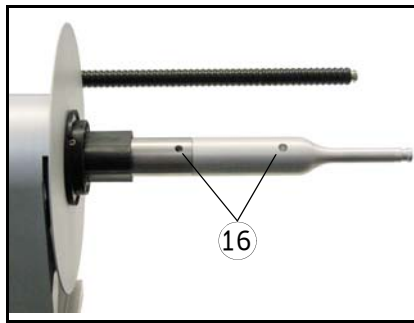
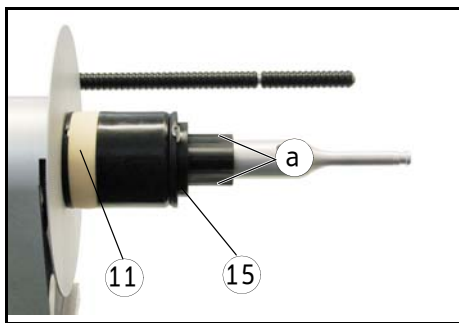
- > Remove sleeve **2** after removing screw **12**.



- > 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**.

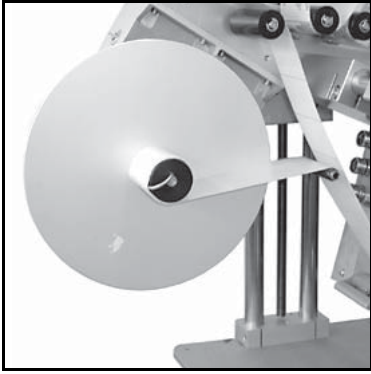
Moreover, screw **14** (the one closer to the disc) must be aligned exactly onto flat surface **b** on clamping piece **17**.

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.

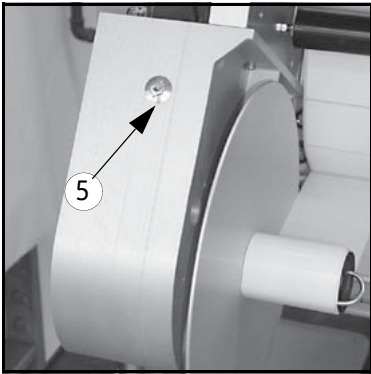
6.2.11 Backing paper take-up unit motorized



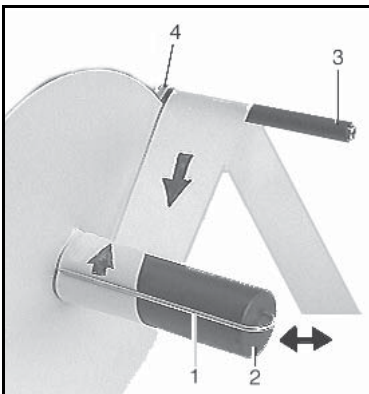
SWITCHING THE UNIT OFF



- > Without the web inserted the drive is set to „permanent run“.
- You can switch off the drive with the help of toggle switch **5** at the side of the housing.

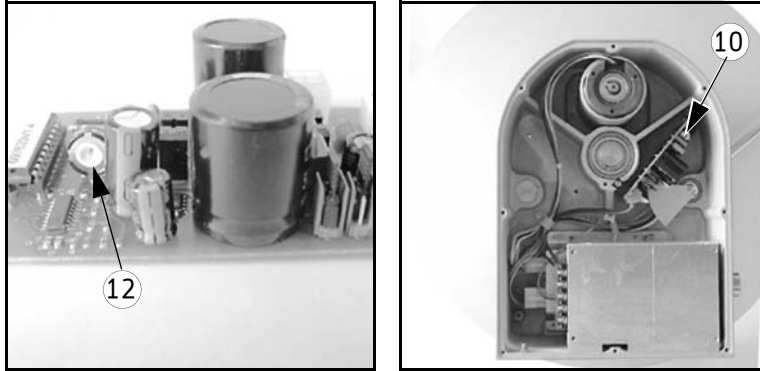


INSERTING THE BACKING PAPER



- > Switch off the drive.
- > Remove clip **1**.
- > Run web around roll **3** of the pendulum **4**.
- > Run web around take-up roll **2**.
- > Replace clip **1** and clamp web.
- > Switch on the drive; the web will thus be tightened.

ADJUSTING THE SPEED



- > The speed of the motorized backing paper take-up unit can be changed via potentiometer **12** on the circuit board **10**. A change of speed is required only if the labelling performance changes substantially, or if the unit rewinds too slowly and thus undefined loops are created – when the winding diameter is low.


7 Troubleshooting

7.1 Indication of malfunctions


With H400 applicators the type of malfunction is indicated via the display (see section 7.1.1). Also, the LEDs of the key pad will give an indication (see section 7.1.2 „Malfunction table (LED indication)“).

ACKNOWLEDGING MALFUNCTIONS

If the applicator is connected to a superordinate control malfunctions very often are acknowledged centrally (e.g. at a touch display).¹

Directly at the applicator or via superordinate control malfunctions are acknowledged by pressing the key  or applying a signal (rising edge only \square'). See the following table (section 7.1.2, column „Acknowledge“).

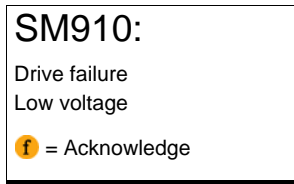


Note: Always dispense at least two labels (pressing the key ) after occurrence of a malfunction in order to ensure a correct label's position at the dispensing beak. If there are optional print or control systems present and active, as many labels must be dispensed as there are between dispensing beak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

1. If pin X10.12 available

7.1.1 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 **f**, i.e. if a malfunction is displayed this key does not have any other function.

7.1.1.1 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.

7.1.1.2 SM108 Dispensing beak 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.

7.1.1.3 SM109 Dispensing beak 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.

7.1.1.4 SM110 Dispensing beak 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.

7.1.1.5 SM111 Dispensing beak 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.

7.1.1.6 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.

7.1.1.7 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.

7.1.1.8 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.

7.1.1.9 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.

7.1.1.10 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.

7.1.1.11 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 labelled (the label could not stick to the product).

7.1.1.12 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.

7.1.1.13 SM153 Multi labelling Start sequence too close

This message appears if with activated multi labelling (parameter 160) the various labels are too close to each other. You may have to increase the corresponding start delays.

7.1.1.14 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.

7.1.1.15 SM165 Roller unit Communication error

This message appears if with using a subordinate basic unit, e.g. the roller motor of a type 211 labeller, 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.

7.1.1.16 SM166 Applicator Communication error

This message appears if with using a superordinate basic unit, e.g. the applicator motor of a type 211 labeller, 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.

7.1.1.17 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.

7.1.1.18 SM168 CAN connection Disconnect!

This message appears if the CAN connection must be interrupted/disconnected (at X18).

7.1.1.19 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.

7.1.1.20 SM181 Chip changed!

This message appears if the chip determining the applicator model was changed or not properly recognized during operation.

7.1.1.21 SM199 CAN communication no CAN module detected

This message appears if there is no connection to the required CAN module. Check the cabling.

7.1.1.22 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.

7.1.1.23 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.

7.1.1.24 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.

7.1.1.25 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.

7.1.1.26 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.

7.1.1.27 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.

7.1.1.28 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.

7.1.1.29 SM919 Drive failure Low voltage (peak)

This message appears if there is a short low voltage in the intermediate circuit. Please turn to our Technical Service or to your HERMA partner if this malfunction occurs repeatedly.

7.1.1.30 SM920 Drive failure Overload (peak)

This message appears if the maximum peak current was exceeded. Please turn to our Technical Service or to your HERMA partner if this malfunction occurs repeatedly.

7.1.1.31 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.

7.1.1.32 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.

7.1.1.33 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.







7.1.1.34 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.

7.1.1.35 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.

7.1.2 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 printer</i> ¹	●	✱ 2x	✱ 2x	●	●	●	●	o	●
Clamping lever open (nip roller), web break, or missing stop signal (label sensor) – <i>with printer</i> ¹	●	✱ 3x	✱ 3x	●	●	●	●	o	●
Diminishing reel at reel holder	☼	—	—	—	—	—	—	—	—
End of reel at reel holder, <i>without lock</i> (stop automatic mode)	☼	—	—	—	—	—	—	—	—
End of reel at reel holder, <i>with lock</i> (stop automatic mode)	●	✱ 4x	✱ 4x	●	●	●	●	o	●
Type difference of applicator chip during operation ²	●	✱ 5x	✱ 5x	●	●	●	●	o	●
Overload switching outputs (CAN I/O) ³	●	✱ 6x	✱ 6x	●	●	●	●	o	●
Products follow too close to each other	●	✱ 8x	✱ 8x	●	●	●	●	o	●
Voltage too low ³	●	—	✱ 10x	●	●	●	●	o	●
Voltage too high (brake energy) ^{3,4}	●	—	✱ 11x	●	●	●	●	o	●
Overload 1 ³	●	—	✱ 12x	●	●	●	●	o	●
Overload 2 ^{3,5}	●	—	✱ 13x	●	●	●	●	o	●
Motor blocking protection ³	●	—	✱ 14x	●	●	●	●	o	●
System error ³	●	—	✱ 15x	●	●	●	●	o	●
Overload 3 ³	●	—	✱ 16x	●	●	●	●	o	●

- Function possible (press key, apply signal (rising edge only , i.e. level change from low to high))
- o Function impossible
- without function

7.1.2.1 Remedy of malfunctions

Malfunction type	Remedy
1	<ul style="list-style-type: none"> • Close lever at the drive roller (nip roller) (see also fig. on page 26). • Check label web, insert if required. • Check label sensor (stop signal), replace if required.
2	<ul style="list-style-type: none"> • Use only the correct chip belonging to the applicator
3	<ul style="list-style-type: none"> • Please turn to our Technical Service or to your HERMA partner if a malfunction occurs repeatedly.
4	<ul style="list-style-type: none"> • Check voltage.
5	<ul style="list-style-type: none"> • Remove any label remainders from the drive/transport roller.

7.1.3 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	Labelling 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.

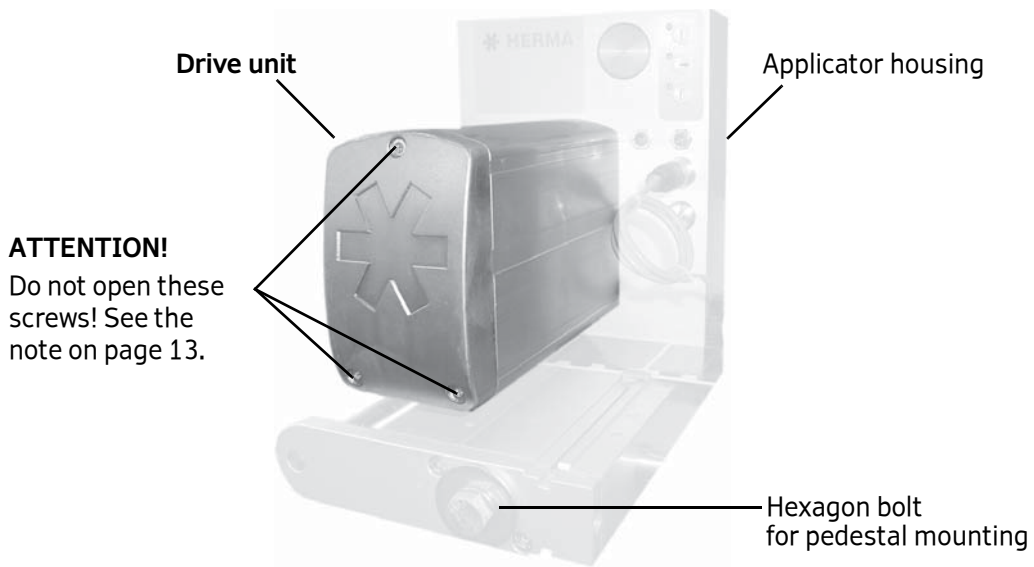
7.2 Other malfunctions

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 7.4).

Malfunction	Cause	Remedy
Labeller does not start up	a) No supply voltage.	a) Connect labeller up to mains.
	b) Labeller not switched on.	b) Switch on main switch at control box and push-button at labeller 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 7.3)
Labeller does not dispense label	a) Label web inserted incorrectly.	a) Insert label web according to description for the relevant component (chapters 4 and 6).
	b) Pressure roller disengaged.	b) Engage pressure roller (section 6.2.9, „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 6.2.5 / 6.2.6).
	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 8).
	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 6.2.4).
	b) Label remainders clamped beneath sensing/scanning unit.	b) Clean sensing/scanning unit (chapter 8).
	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 (chapters 4 and 6).
	e) Label web tracking.	e) Adjust dispensing system (section 6.2.7).
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 6.2.5 / 6.2.6)
	c) Pressure roller misadjusted, backing paper slips.	c) Correctly adjust pressure roller (section 6.2.9).
	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.

7.3 Replace the drive unit



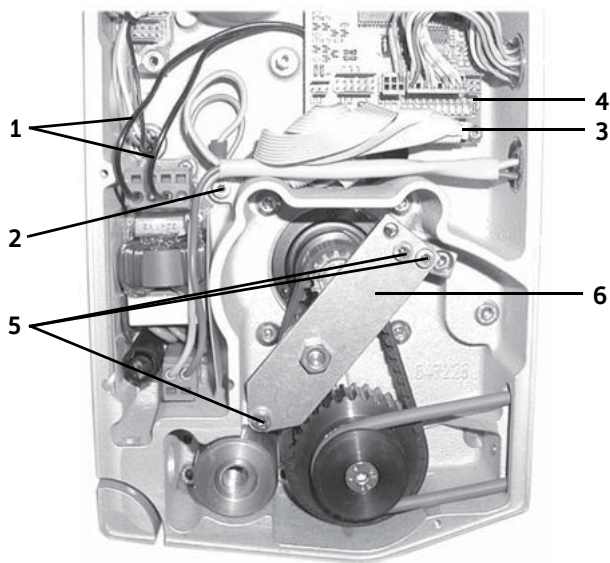
Warning: Before opening the applicator housing disconnect mains plug!

7.3.1 Remove the drive unit

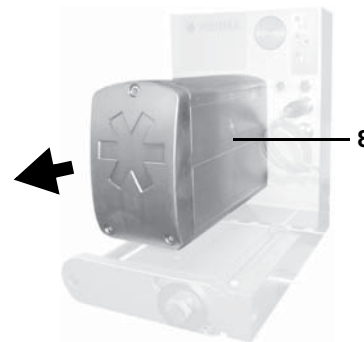
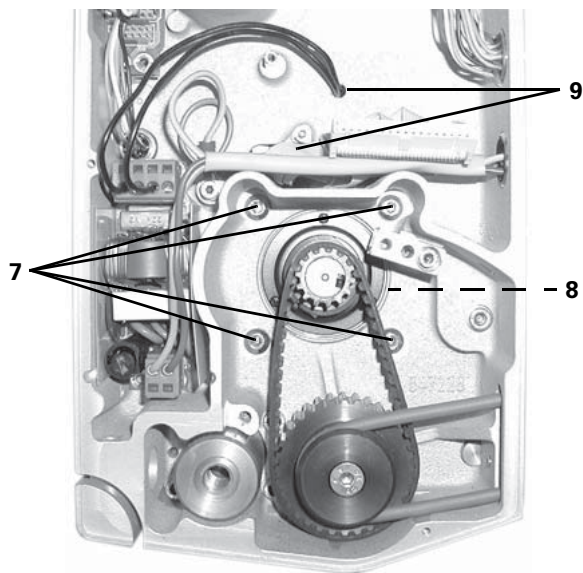
For removing the drive unit proceed as follows:

- 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

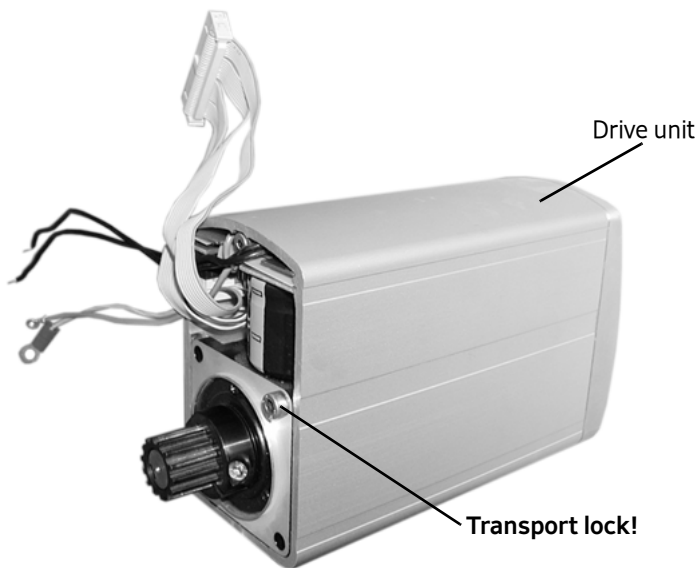


- ❑ Loosen the motor cables (mains plug (pin1+3) **1**, protective earth conductor **2** and 34channel control cable **3**).
- ❑ Remove the distributor circuit board **4**.
- ❑ Loosen three screws **5** and remove the toothed-belt tensioner **6**.



- ❑ Loosen four motor screws **7** and remove the drive unit **8**. Carefully guide the cables through the cable feed-throughs **9**.

7.3.2 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 7.4.

7.3.3 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 „7.3.1 Remove the drive unit“, with proceeding in reverse order.

7.4 Technical Service

Central office

Technical Service
HERMA GmbH
Plochinger Straße 48
73779 Deizisau / Germany
Telephone +49 (0)711 7702 551

Mail@herma.de

8 Cleaning and maintenance



Warning: Before carrying out cleaning or maintenance work disconnect machine from mains!

CLEANING NOTES



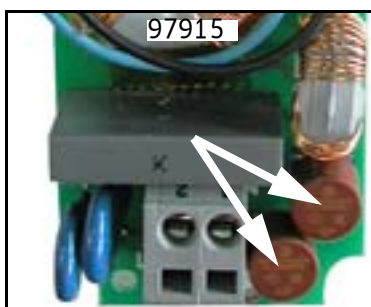
- Use cleaning material only that does not attack metal, rubber, or plastics parts.
- Make sure that all machine parts that touch the products to be labelled are free from adhesive or label fragments.
- Remove adhesive residue with a label solvent.
- Clean label sensing/scanning unit with a soft cloth 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 6.2).

EXCHANGING FUSES



Warning: Before opening control box or labeller housing, disconnect from mains!
When cutting the HERMA 400 applicator off mains you must wait for at least five minutes before opening the housing or touching connector pins.
RESIDUAL VOLTAGES!



> Use suitable gripping tool for removing and inserting.

See chapter 9 for fuse specifications.

WARRANTY



Important: Opening the screws at the front of the drive unit will void the warranty!





Labelling Systems

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9 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 labellers 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	approx. 400 VA
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	+0°C ... +40°C (+32°F ... 104°F)
Storage and transport temperature	-20°C ... +80°C (-4°F ... 176°F)
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 according to DIN 45635	max. 75dB(A)
Type of protection	IP54
Output capability	250 mA (nominal), short circuit-proof, = maximum load over all outputs
Safety class	Class 2 peripherals may be connected
Diameter label reel	Standard: 300 mm (12") Maximum: 400 mm (16", optional)
Core diameter	Standard: 76 mm (3")
Constructional variants	For right-hand and left-hand operation
Dimensions	Customer-specific



Under extreme operational conditions, maybe e.g. with model H400 Premium, above-mentioned ranges are subject to restrictions that cannot be defined exactly. In case of an overload the applicator may switch off automatically.

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

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.

9.1 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	→97900
PIN					
1	LED3	OUT	☀️ f 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 [†]	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

[†] Note: Functionality active only if jumper „Remote“ (see wiring diagram) is set.

9.2 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	→97900
PIN					
1	+24V	OUT	Power supply (<150mA)	brown	X31.9
2	GND	I/O	Ground (all voltages DC)	blue	X31.2
3	M_ENC_A	IN	Master encoder track A	white	X30.2
4	FEED**	IN	Manual feed 	green	X31.5
5	STOP	OUT	Label sensor (end of transport)	pink	X31.4
6	START ^{††}	IN	Start of labelling 	yellow	X21.4
7	M_ENC_B	IN	Master encoder track B	black	X30.4
8	S3	OUT	Key S3 „function“	grey	X31.6
9	LOCK ^{††}	IN	Lock labelling start (1-active)	red	X31.10
10	NO_LABEL	OUT	Missing label on web	violet	X31.7
11	ACTIVE	OUT	Label transport running	greypink	X31.3
12	S2**	OUT	Key S2 „manual feed “	redblue	X31.8

** 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 realised 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.

10 Declaration of Conformity / Manufacturer

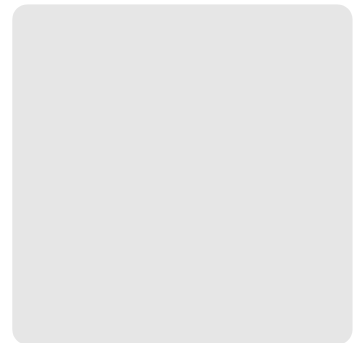
HERMA GmbH
Division Labelling Systems
Plochinger Straße 48
73779 Deizisau / Germany

EC Declaration of Conformity / Manufacturer
according to the EC Machinery Directive 98/37/EG, appendix II A / B
EC EMC Directive 2004/108/EC
EC Low-voltage Directive 2006/95/EEC

We hereby declare that the following machinery is developed, designed, and manufactured by us in our sole responsibility in compliance with above mentioned EC Directives. With any change of the machine which has not been settled with us this declaration loses its validity.

If integrated into another machine this machine must not be put into operation until it is established that the machinery into which this machine is to be integrated complies with the relevant requirements of the EC Machinery Directive.

Machine description: Labeller
Machine type: HERMA 400 (see type label)
Machine no.: (see type label)



Applied harmonized standards: EN 415-2
 EN 60204-1

For evaluating the machinery regarding electromagnetic compatibility the following standards were used:

EN 61000-6-2:2005
EN 61000-6-4:2007

Date / Signature manufacturer: _____

Date


Technical manager



Labelling Systems

www.herma.com

mail@herma.de

11 Spare parts

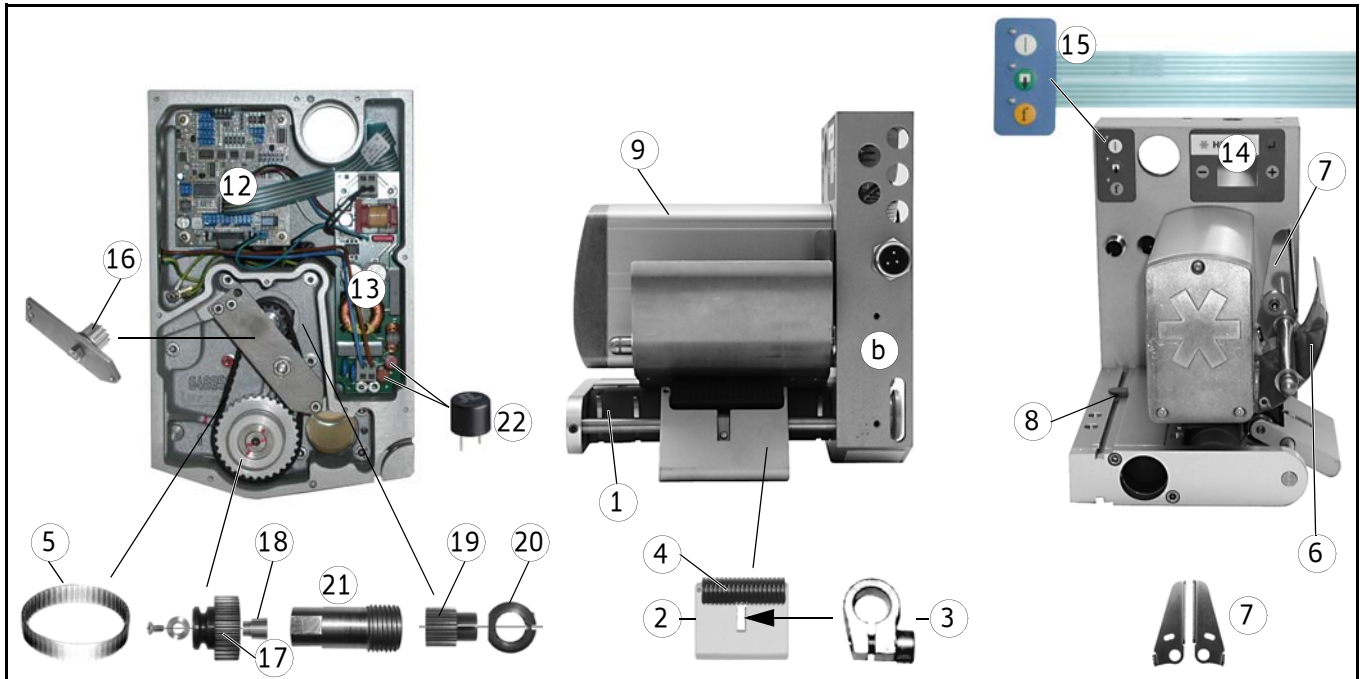
ORDERING INSTRUCTIONS

- > For processing of spare parts orders we absolutely need the material number (Mat.-No.).
- > In order to avoid queries please state applicator number as well.

PROCEDURE

- > Obtain the material number of the part needed with the help of its position no.
- > For all parts that are available in different types obtain the type of your labeller from the type plate (width and constructional type) and, as the case may be, from the display (type). The type plate/label you will find on the side of the labeller housing and as well on the cover page of this manual.

Example:		HERMA 400	L	V	8
Construction:	Left-hand	L			
	Right-hand	R			
Type:	Fix	F			
	Vario	V			
	Vario M	VM			
	Premium	P			
	PremiumPlus	PPS			
Backing paper width:	Max.: 82 mm (3.3")	8			
	Max.: 164 mm (6.5")	16			
	Max.: 244 mm (9.6")	24			
	Max.: 328 mm (13")	32			

GRUNDEINHEIT
BASIC UNIT
UNITÉ DE BASE


Pos. Item Pos.	Bezeichnung Description Désignation	Ausf. Design Version	Stck. Pcs. Nbre	Mat.-Nr. Mat.-No. No.-mat.	
1	Transportwalze komplett 16 24 32	Transport roller complete 16 24 32	Rouleau de transport complet ① ② ②	1 1 1	7000055 70000230 70000234
2	Schwenkhebel komplett	Swivel lever complete	Levier de blocage complet	①	1 600132
3	Klemmstück komplett	Clamp piece complete	Pièce de serrage complet	1	600138
4	Rolle komplett	Roller complete	Rouleau complet	1	600134
5	Zahnriemen	Toothed belt	Couroie crantée	①	1 611974
6	Bremsblech	Brake plate	Tôle-frein	1	600025
7	Einstellblech L R	Adjusting plate L R	Tôle d'ajustage L (gauche) R (droite)	1 1	647448 647449
8	Papierführung	Paper guide	Guide bande	1	616023
9	H400 Antr.einheit kompl. inkl. Elektronik, ohne Gehäuse (b)	H400 drive-unit complete incl. electronics, w/o housing (b)	Entraînement complet H400 incl. electronics, sans boîtier (b)	① 1	1 647430
12	H400 CAN I/O Platine m. Dilsplay	H400 CAN I/O circuit board w display	Carte de circuits H400 CAN I/O /display	1	097940
13	H400 Netzfilter-Platine	H400 filter cilrcuit board	Carte de circuits H400, filter	1	097915
14	Folientastatur Display	Foil keypad display	Clavier à effleurement display	1	647428
15	Folientastatur H400	Foil keypad H400	Clavier à effleurement H400	1	647416
16	Riemenscheibe z14 komplett	Pulley z14 complete	Poulie z14 complet	1	646928
17	Riemenscheibe Z32 Walze	Pulley z32 roller	Poulie z32 rouleau	1	646926
18	Spannelement	Tensioner	Tendeur	1	611977
19	Riemenscheibe Z14 Motor	Pulley z14 motor	Poulie z14 moteur	1	646923
20	Scheibe komplett	Disk complete	Disque complet	1	646929
21	Abziehwerkzeug für Pos.17+18	Pulling-off-device for pos.17+18	Démonte-roue pour pos.17+18		646945
22	Kleinstsicherung 3,15 A	Microfuse 3.15 A	Petit coupe-circuit 3.15 A	2	617349

① Bei beabsichtigter Lagerhaltung empfohlen // Recommended if holding stocks is desired // Recommandé en cas de stockage prévu
 ② Bei Geräteschlüssel/ with type code/ avec type 201... 16 = 646940, 24 = 601145, 32 = 602584

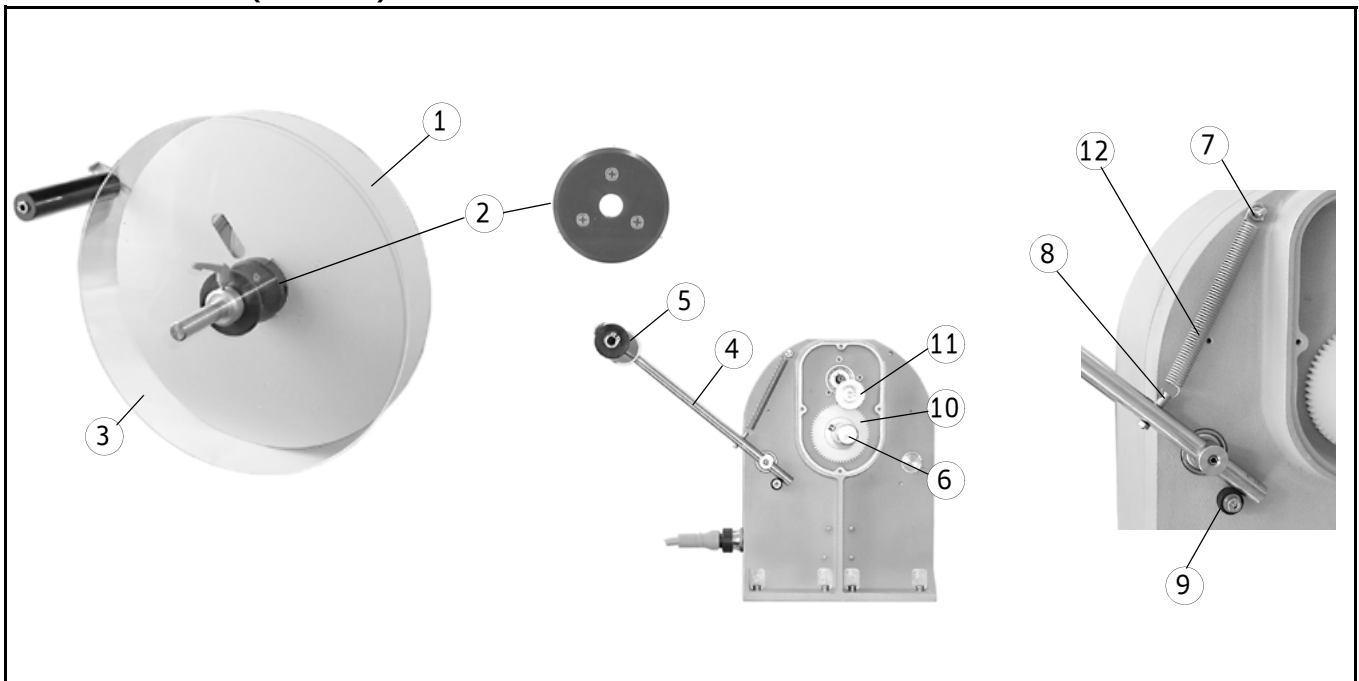
GARANTIE
WARRANTY
GARANTIE


Wichtig: Durch das Öffnen der Schrauben an der Vorderseite der Antriebseinheit erlischt der Garantieanspruch!
Important: Opening the screws at the front of the drive unit will void the warranty!
Important: L'ouverture des vis sur la face avant de l'entraînement provoque la perte du droit à la garantie !



MOTORISCHER (SCHLAUFEN-)VORROLLER
MOTORIZED (LOOP-TYPE) UNWINDER
DÉROULEUR À MOTEUR (DE BOUCLE)

1/2

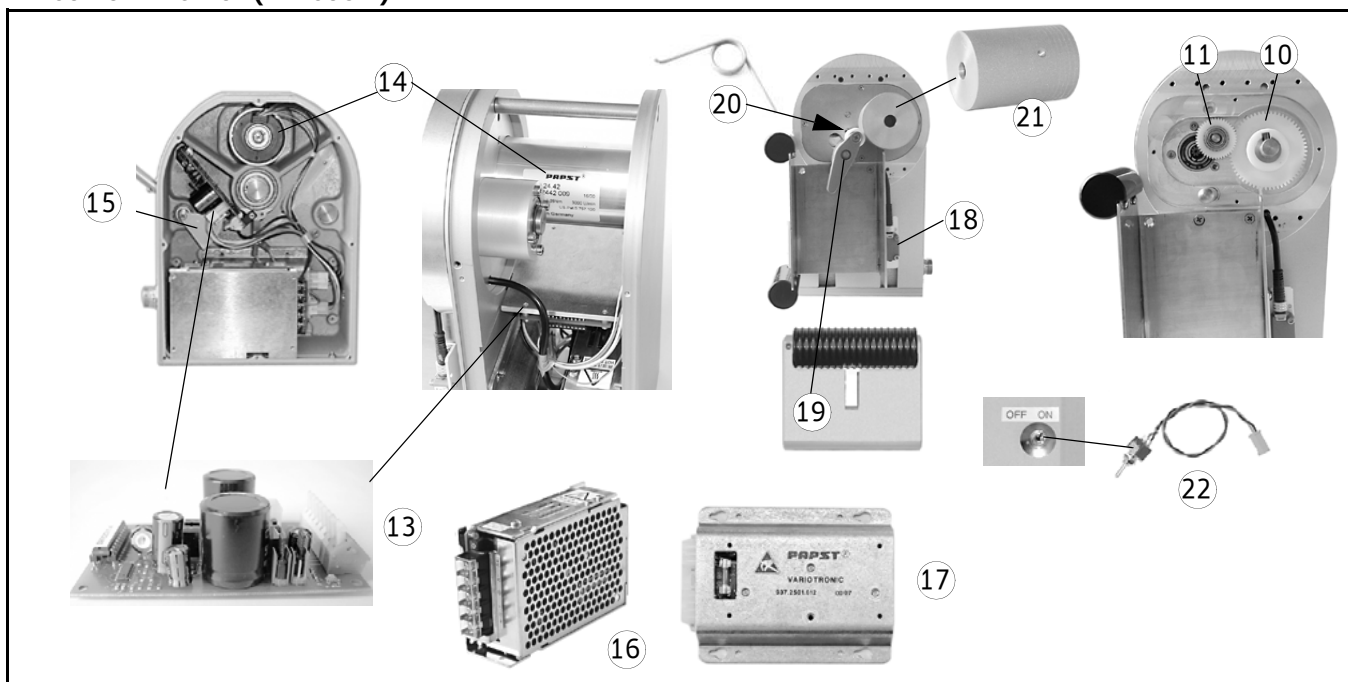


Pos. Item Pos.	Bezeichnung Description Désignation	Ausf. Design Version	Stck. Pcs. Nbre	Mat.-Nr. Mat.-No. No.-mat.
1	Scheibe ø 404 mm ø 404 mm	Disque ø 404 mm (16") ø 404 mm (16")	Disque ø 404 mm ø 404 mm	① 1 1 625258 625153
2	Scheibe, komplett - für Hülse ø 40 mm ø 50 mm ø 70 mm ø 76 mm (3") ø 90 mm	Ring, complete - for core ø 40 mm (1,6") ø 50 mm (2") ø 70 mm (2,75") ø 76 mm (3") ø 90 mm (3,5")	Disque, complet - pour douilles ø 40 mm ø 50 mm ø 70 mm ø 76 mm (3") ø 90 mm	1 1 1 1 1 1 625357 625358 625359 625360 625361
3	Gegenhalter, komplett ø 400 mm, stehend - für Hülse ø 40 mm ø 50 mm ø 70 mm ø 76 mm (3") ø 90 mm ø 400 mm, liegend - für Hülse ø 40 mm ø 50 mm ø 70 mm ø 76 mm (3") ø 90 mm	Counter holder, complete ø 400 mm, vertical - for core ø 40 mm (1,6") ø 50 mm (2") ø 70 mm (2,75") ø 76 mm (3") ø 90 mm (3,5") ø 400 mm, horizontal - for core ø 40 mm (1,6") ø 50 mm (2") ø 70 mm (2,75") ø 76 mm (3") ø 90 mm (3,5")	Contre support, complet ø 400 mm, verticale - pour douilles ø 40 mm ø 50 mm ø 70 mm ø 76 mm (3") ø 90 mm ø 400 mm, horizontale - pour douilles ø 40 mm ø 50 mm ø 70 mm ø 76 mm (3") ø 90 mm	1 1 1 1 1 1 625326 625327 625328 625329 625330 1 625365 625364 625363 625362 625366
4	Pendel, komplett 8	Pendulum, complete 8	Pendule, complet 8	1 625302
5	Rolle, komplett 8	Roller, complete 8	Rouleau, complet 8	1 620356
6	Welle, komplett 24	Shaft, complete 24	Arbre, complet 24	1 625308
7	Bolzen	Bolt	Axe	1 088937
8	Bolzen	Bolt	Axe	1 625356
9	Scheibe	Disc	Disque	1 655755
10	Zahnrad z59	Gear wheel z59	Roue dentée z59	1 625319
11	Zahnrad komplett z21/43	Gear wheel complete z21/43	Roue dentée complet z21/43	1 625321
12	Zugfeder	Tension spring	Ressort de traction	1 611951

① Nur Kerndurchmesser 40 mm / core diameter 40 mm (1,6") only / seulement diamètre de la douille du rouleau 40 mm

MOTORISCHER (SCHLAUFEN-)VORROLLER
MOTORIZED (LOOP-TYPE) UNWINDER
DÉROULEUR À MOTEUR (DE BOUCLE)

2/2



Pos. Item Pos.	Bezeichnung Description Désignation	Ausf. Design Version	Stck. Pcs. Nbre	Mat.-Nr. Mat.-No. No.-mat.
13	Platine Circuit board Carte de circuits		1	097620
14	Motor Motor Moteur		1	615837
15	Blech Sheet metal Tôle		1	625325
16	Schaltnetzteil Power pack switch Bloc d'alimentation		1	097549
17	Variotronic Variotronic Variotronic		1	615838
18	Reflexionslichtschranke inkl. Reflektor Photoelectric reflex incl. reflector Barrière réflex incl. réflecteur		1	611957
19	Andrückrolle Pressure roller Rouleau de pression		1	600132
20	Schenkelfeder Torsion spring Ressort à branches			
	für for pour	①	1	625426
	für for pour	②	1	625427
21	Walze Roller Rouleau			
	8		1	625408
	16		2	625408
	†: + Schraube / screw / vis	†	1	610096
22	Schalter Switch Interrupteur		1	625367

① Andrückrolle rechts von Transportwalze / Pressure roller right of transport roller / Pressure roller right of transport roller

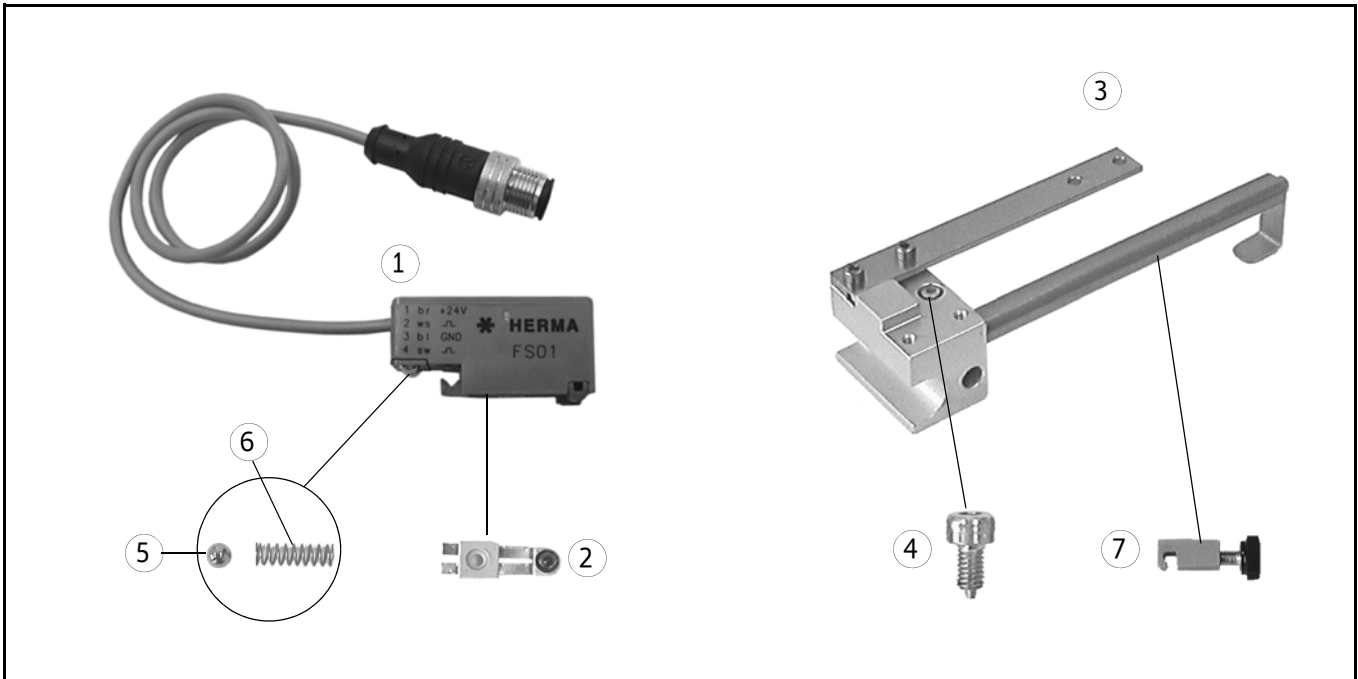
② Andrückrolle links von Transportwalze / Pressure roller left of transport roller / Pressure roller left of transport roller

STANDARD ABWICKLER
STANDARD UNWINDER
PORTE BOBINE


Pos. Item Pos.	Bezeichnung Description Désignation	Ausf. Design Version	Stck. Pcs. Nbre	Mat.-Nr. Mat.-No. No.-mat.
1	Gegenhalter ø 300 mm ø 400 mm	Counter holder ø 300 mm (12") ø 400 mm (16")		1 620415 1 620416
2	Griff komplett	Handle complete		1 620432
3	Schwinge komplett	Rocker complete		1 620456
4	Näherungsschalter	Proximity switch		1 097931
5	Zugfeder 1,0x6,0x54,4	Tension spring 1.0x6.0x54.4		1-4 617021
6	Formteil-PU	Mould-PU		1 620468
7	Formteil komplett	Mould complete		1 620433
8	Ring 74x23	Ring 74x23		2-4 776667
9	Stange 4x55	Bar 4x55		1 620447

① Bei beabsichtigter Lagerhaltung empfohlen // Recommended if holding stocks is desired // Recommandé en cas de stockage prévu

ETIKETTENABTASTUNG FS01
LABEL SENSOR FS01
UNITÉ DE PALPAGE FS01



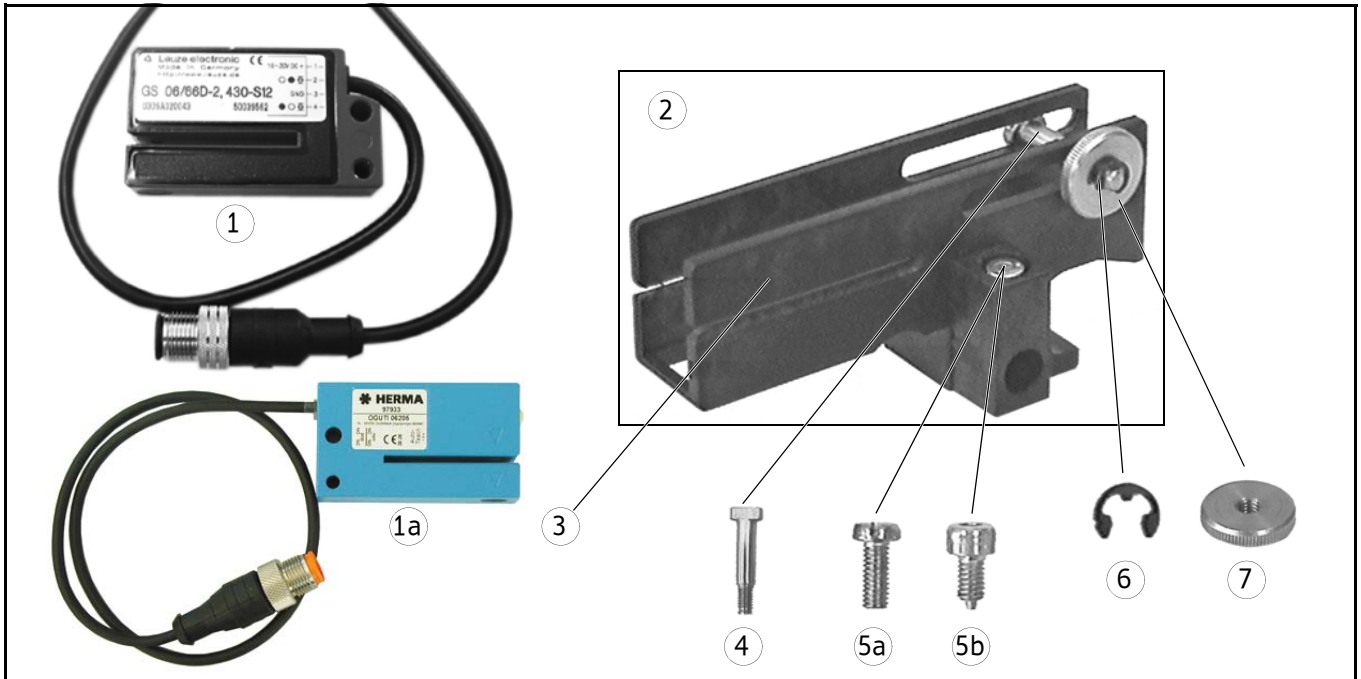
Pos. Item Pos.	Bezeichnung	Description	Désignation	Ausf. Design Version	Stck. Pcs. Nbre	Mat.-Nr. Mat.-No. No.-mat.
1	Etikettenabtastung mit Steckverbinder FS 01 FS 01	Label sensing with connector FS 01 FS 01	Indexage d'étiquettes avec fiche FS 01 FS 01	② ②④	1 1	680290 680295
2	Abtastkopf komplett FS 01	Sensing head complete FS 01	Tête de palpage, complet FS 01		1	680258
3	Halter komplett R L	Holder complete R L	Support complet R (droite) L (gauche)		1 1	646635 646636
4	Federndes Druckstück M4	Setscrew M4	Vis de guidage M4	③	1	646637
5	Kugel D5 Stahl	Ball	Bille		1	611539
6	Druckfeder	Pressure spring	Ressort de traction		1	611560
7	Anschlag	Stop	Butée		1	680268

② „High“ auf Etikett / „high“ on label / „high“ sur l'étiquette

③ Bei Feinverstellung / for vernier adjustment / pour réglage micrométrique

④ Für Metalletiketten / for metallic labels / pour étiquettes métallisées

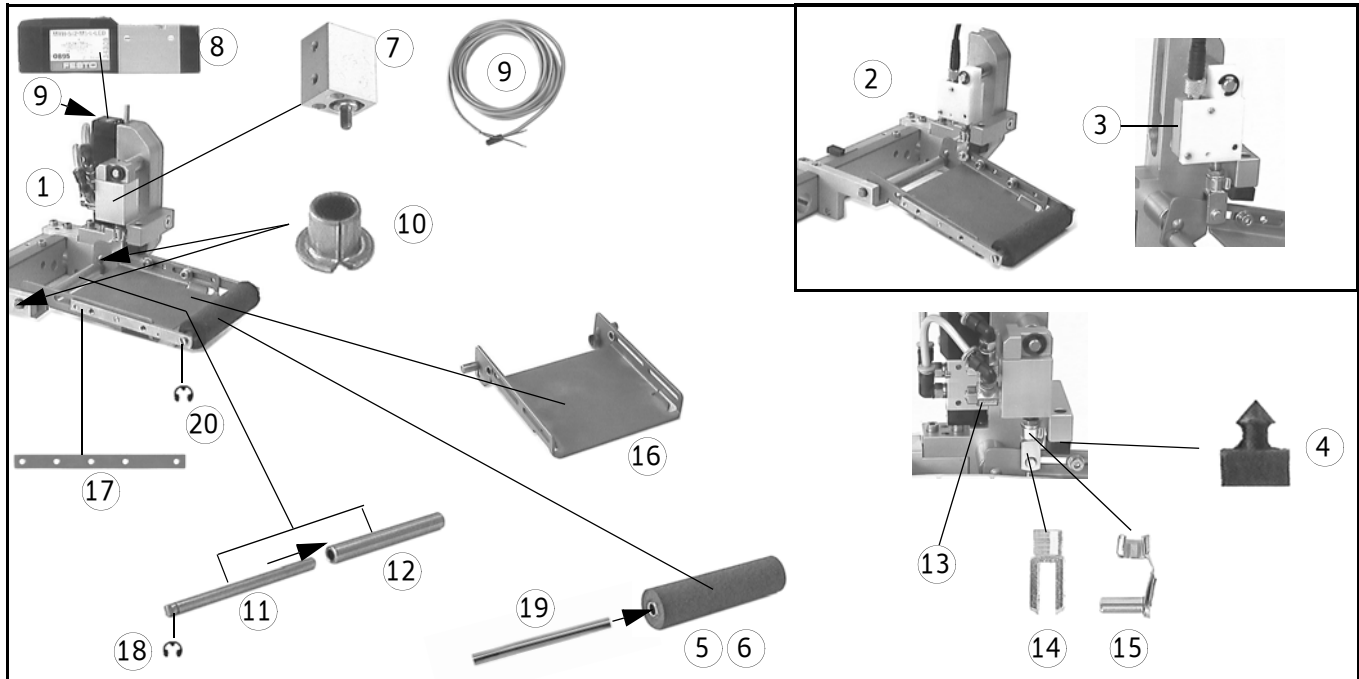
ETIKETTENABTASTUNG OPTOELEKTRONISCH
LABEL SENSOR OPTOELECTRONIC
UNITÉ DE PALPAGE PHOTOÉLECTRIQUE



Pos. Item Pos.	Bezeichnung Description Désignation	Ausf. Design Version	Stck. Pcs. Nbre	Mat.-Nr. Mat.-No. No.-mat.
1	Lichtschanke Photocell Cellule	GS06/66D-2... GS06/66-5	1 1	097306 614903
1a	Lichtschanke incl. Teach Photocell incl. Teach Cellule incl. Teach	OGUTI 06205	1	097933
2	Formteil, komplett Mould, complete Préformé, complet		1	646631
3	Formteil Mould Préformé		1	646226
4	Stift Pin Cheville		1	646254
5a	Zylinderschraube M4 x 10 Cheesehead screw M4 x 10 Vis à tête cylindrique M4 x 10	①	1	646763
5b	Druckstück, federnd Thrust piece, elastique Membre de pression, élastique	②	1	646637
6	Sicherungsscheibe Circlip Circlip		1	610778
7	Rändelmutter M4 Knurled nut M4 Ecroû moleté bas		1	610543

① Für Normalverstellung/ for normal adjustment / pour réglage approximatif
 ② Für Feinverstellung / for vernier adjustment / pour réglage micrométrique

SCHWENKZUNGE / ANDRÜCKEINHEIT
PIVOT BEAK / APPLICATION UNIT
LANGUETTE PIVOTANTE / UNITÉ D'APPLICATION

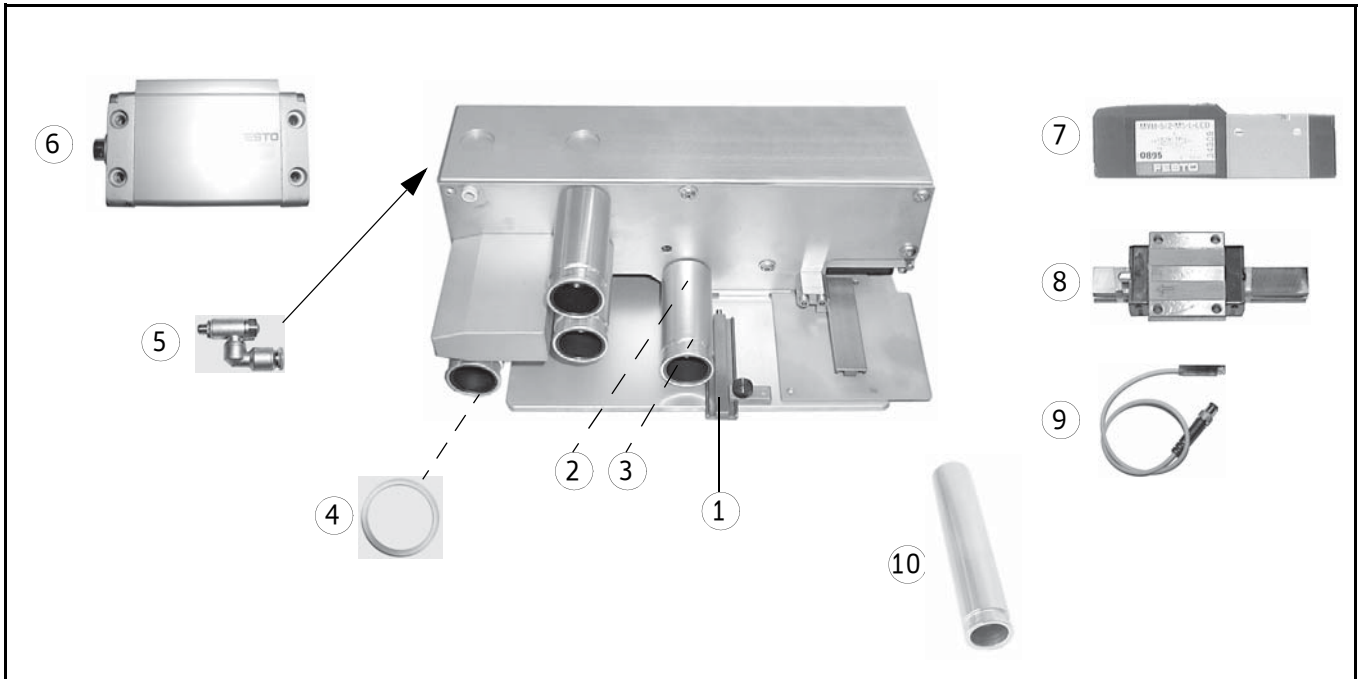


Pos. Item Pos.	Bezeichnung	Description	Désignation	Ausf. Design Version	Stck. Pcs. Nbre	Mat.-Nr. Mat.-No. No.-mat.
1	Schwenkzunge, komplett ohne Walze	Pivot beak complete without roller	Languette pivotante, complet sans rouleau		1	690420
	8	8	8		1	690425
	16	16	16		1	690425
2	Andrückeinheit, komplett ohne Walze	Application unit complete without roller	Unité d'application, complet sans rouleau		1	691010
	8	8	8		1	691013
	16	16	16		1	097281
3	Näherungsschalter	Proximity switch	Détecteur de proximité	②	1	097281
4	Zargenpuffer	Buffer	Amortisseur		1	611598
5	Walze, Moosgummi	Rubber roller	Rouleau gommé			
	42 mm	42 mm (1,65")	42 mm		1	091698
	83 mm	83 mm (3,3")	83 mm		1	091813
	166 mm	166 mm (6,5")	166 mm		1	091878
6	Walze, Silizium beschichtet	Roller, silicium coated	Rouleau, plaque de silicium			
	42 mm	42 mm (1,65")	42 mm		1	090333
	83 mm	83 mm (3,3")	83 mm		1	090334
	166 mm	166 mm (6,5")	166 mm		1	090335
7	Zylinder ADVC-12-10-A-P	Cylinder ADVC-12-10-A-P	Cylindre ADVC-12-10-A-P	①	1	611967
8	Magnetventil MYH-5/2-M5-L...	Solenoid valve MZH-5/2-M5-L...	Electrovanne MZH-5/2-M5-L...	①	1	611317
9	Kabel KMYZ-1-24-2,5	Cable KMYZ-1-24-2,5	Câble KMYZ-1-24-2,5	①	1	611453
10	DU-Bundbuchse	Bushing	Douille		2	613400
11	Achse	Axle	Axe			
	8	8	8		1	616016
	16	16	16		1	616017
12	Rohr	Tube	Tube			
	8	8	8		1	616033
	16	16	16		1	616083
13	Drosselrückschlagventil GRLA-M5	One-way restrictor GRLA-M5	Soupape d'étranglement de retenue GRLA-M5	①	1	093194
14	Gabelkopf	Fork head	Chape avant de vérin		1	096089
15	Bolzen	Knuckle pin	Pivot		1	096073
16	Zunge komplett	Stripper complete	Languette complet			
	8	8	8		1	690435
	16	16	16		1	690436
17	Leiste	Rail	Profilé plat		1	690437
18	Sicherungsscheibe	Circlip	Circlip		1	610779
19	Stange	Bar	Barre			
	8	8	8		1	091699
	16	16	16		1	091814
20	Sicherungsscheibe	Circlip	Circlip		2	610779

① Nur Schwenkzunge / pivot beak only / seulement pour languette pivotante

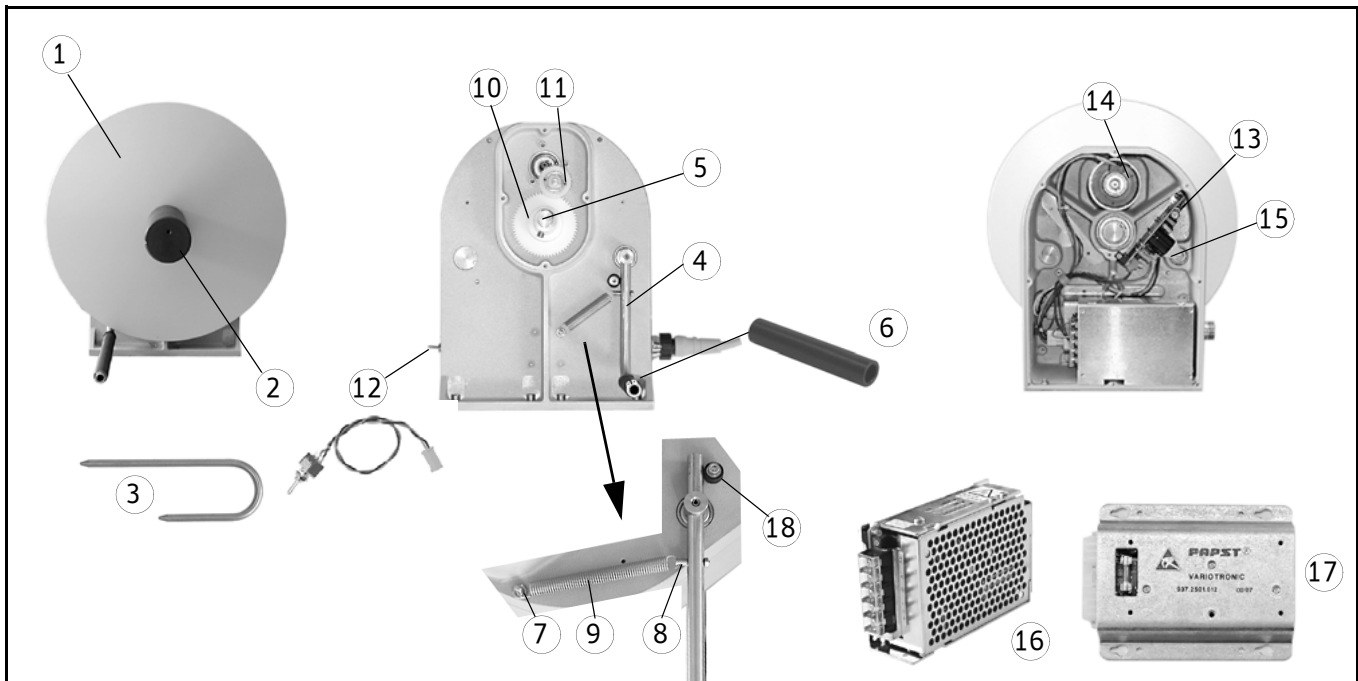
② Nur Andrückeinheit / application unit only / seulement pour unité d'application

BEWEGLICHE ABKLÖSEKANTE TYP C4-50
MOVING BEAK TYPE C4-50
LANGUETTE DE DISTRIBUTION ESCAMOTABLE TYPE C4-50



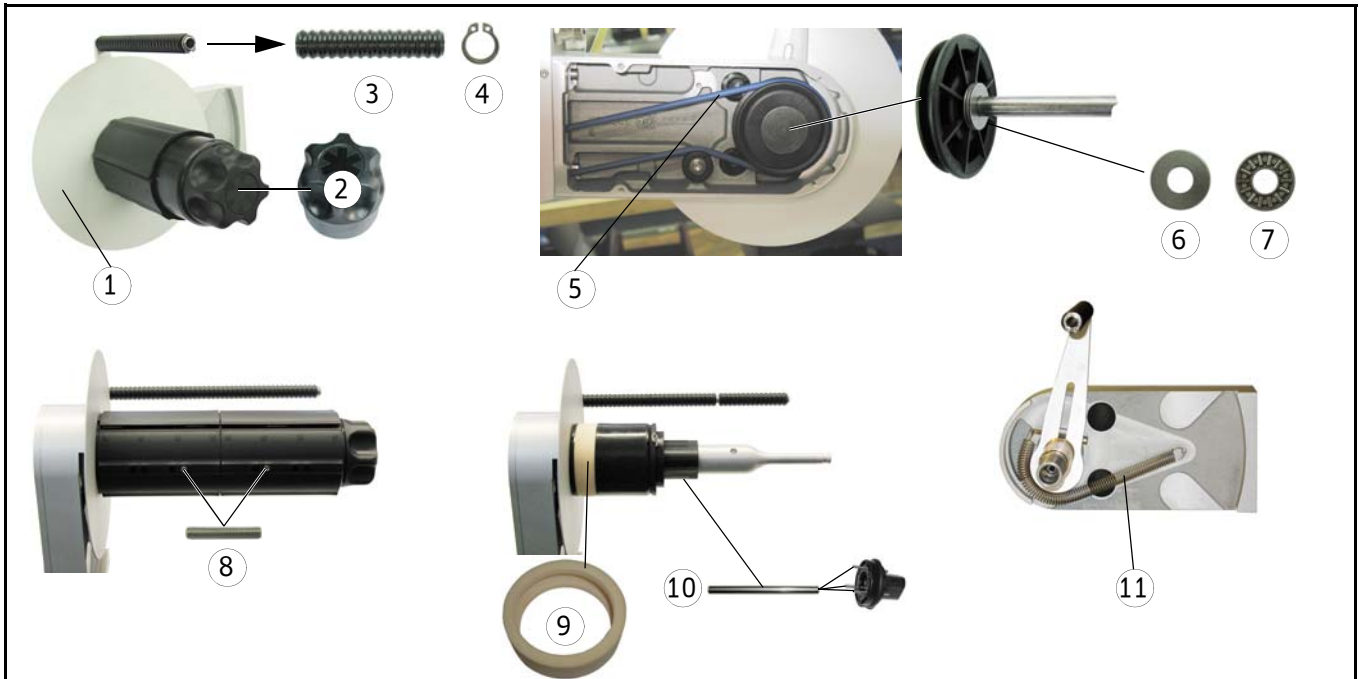
Pos. Item Pos.	Bezeichnung Description Désignation	Ausf. Design Version	Stck. Pcs. Nbre	Mat.-Nr. Mat.-No. No.-mat.
1	Leiste komplett (Papierführung)	Rail complete (paper guide)	Préformé (guide bande)	1 647395
2	Rillenkugellager	Deep groove ball bearing	Roulement a billes rainuré	3-4 093270
3	Rillenkugellager	Deep groove ball bearing	Roulement a billes rainuré	3-4 093269
4	O-Ring PU 18,77x1,78	O-Ring PU 18.77x1.78	O-Ring PU 18,77x1,78	3-4 611932
5	Drosselrückschlagventil	One-way restrictor	Soupape d'étranglement de retenue	
	(4)	(4)	(4)	2 615832
	(6)	(6)	(6)	2 615833
6	Zylinder DZF-25-	Cylinder DZF-25-	Cylindre DZF-25-	
	10	10	10	1 615680
	25	25	25	1 615681
	40	40	40	1 615682
	50	50	50	1 615683
7	Magnetventil MYH-5/2...	Solenoid valve MYH-5/2...	Électrovanne MYH-5/2...	1 611317
8	Profilführung	Profile guide	Guide profil	1 772620
9	Näherungsschalter SME-8F-...	Proximity switch SME-8F-...	Détecteur de proximité SME-8F-..	1 613906
10	Rolle	Roller	Roleau	
	4	4	4	3-4 729251
	12	12	12	3-4 731161
	16	16	16	3-4 731800

MOTORISCHE TRÄGERBANDAUFWICKLUNG
MOTORIZED BACKING PAPER TAKE-UP UNIT (REWINDER)
ENROULEMENT DU PAPIER-SUPPORT À MOTEUR



Pos. Item Pos.	Bezeichnung	Description	Désignation	Ausf. Design Version	Stck. Pcs. Nbre	Mat.-Nr. Mat.-No. No.-mat.
1	Scheibe ø 300 mm	Disc ø 300 mm (12")	Disque ø 300 mm		1	621210
2	Rolle komplett	Roller complete	Roleau complet			
	8	8	8		1	621196
	16	16	16		1	621197
	24	24	24		1	621212
	32	32	32		1	602543
3	Stange	Bar	Barre			
	8	8	8		1	091683
	16	16	16		1	091810
	24	24	24		1	621215
	32	32	32		1	602167
4	Pendel, komplett	Pendulum, complete	Pendule, complet			
	8	8	8		1	621255
	16	16	16		1	621256
	24	24	24		1	621257
	32	32	32		1	621258
5	Welle komplett	Shaft complete	Arbre complet		1	621270
6	Rohr PVC	Tube	Tube			
	8	8	8		1	621184
	16	16	16		2	621184
	24	24	24		3	621184
	32	32	32		4	621184
7	Bolzen	Bolt	Axe		1	088937
8	Bolzen	Bolt	Axe		1	625356
9	Zugfeder	Tension spring	Ressort de traction		1	611952
10	Zahnrad z59	Gear wheel z59	Roue dentée z59		1	625319
11	Zahnrad komplett z21/43	Gear wheel complete z21/43	Roue dentée complet z21/43		1	625321
12	Schalter	Switch	Interrupteur		1	625367
13	Platine	Circuit board	Carte de circuits		1	097620
14	Motor	Motor	Moteur		1	615837
15	Blech	Sheet metal	Tôle		1	625325
16	Schaltnetzteil	Power pack switch	Bloc d'alimentation		1	097548
17	Variotronic	Variotronic	Variotronic		1	615838
18	Scheibe	Disc	Disque		1	655755

TRÄGERBANDAUFWICKLUNG STANDARD
STANDARD BACKING PAPER TAKE-UP UNIT
ENROULEMENT DU PAPIER-SUPPORT STANDARD



Pos. Item Pos.	Bezeichnung Description Désignation	Ausf. Design Version	Stck. Pcs. Nbre	Mat.-Nr. Mat.-No. No.-mat.
1	Scheibe Disc Disque		1	621345
2	Griff komplett Handle complete Poignée complet		1	620432
3	Rolle Roller Rouleau		1-2	621374
4	Sicherungsring Circlip Circlip		1	610745
5	Rundriemen blau 5 x 585 Round belt blue 5 x 585 (0,2"x23") Courroie ronde bleu 5 x 585		1	617432
6	Axial Lagerscheibe Bearing plate Rondelle		2	617350
7	Axial-Nadelkranz Thrust bearing Palier de butée axial		1	617351
8	Gewindestift Hexagon socket set screw Vis sans tête		1	617322
9	Ring 74x23 Ring 74x23		2-3	776667
10	Stange 2,5x71 Bar 2.5x71	①	3	621329
11	Zugfeder Tension spring Ressort de traction		1	617338

① Bei beabsichtigter Lagerhaltung empfohlen // Recommended if holding stocks is desired // Recommandé en cas de stockage prévu



Etikettieren mit System

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