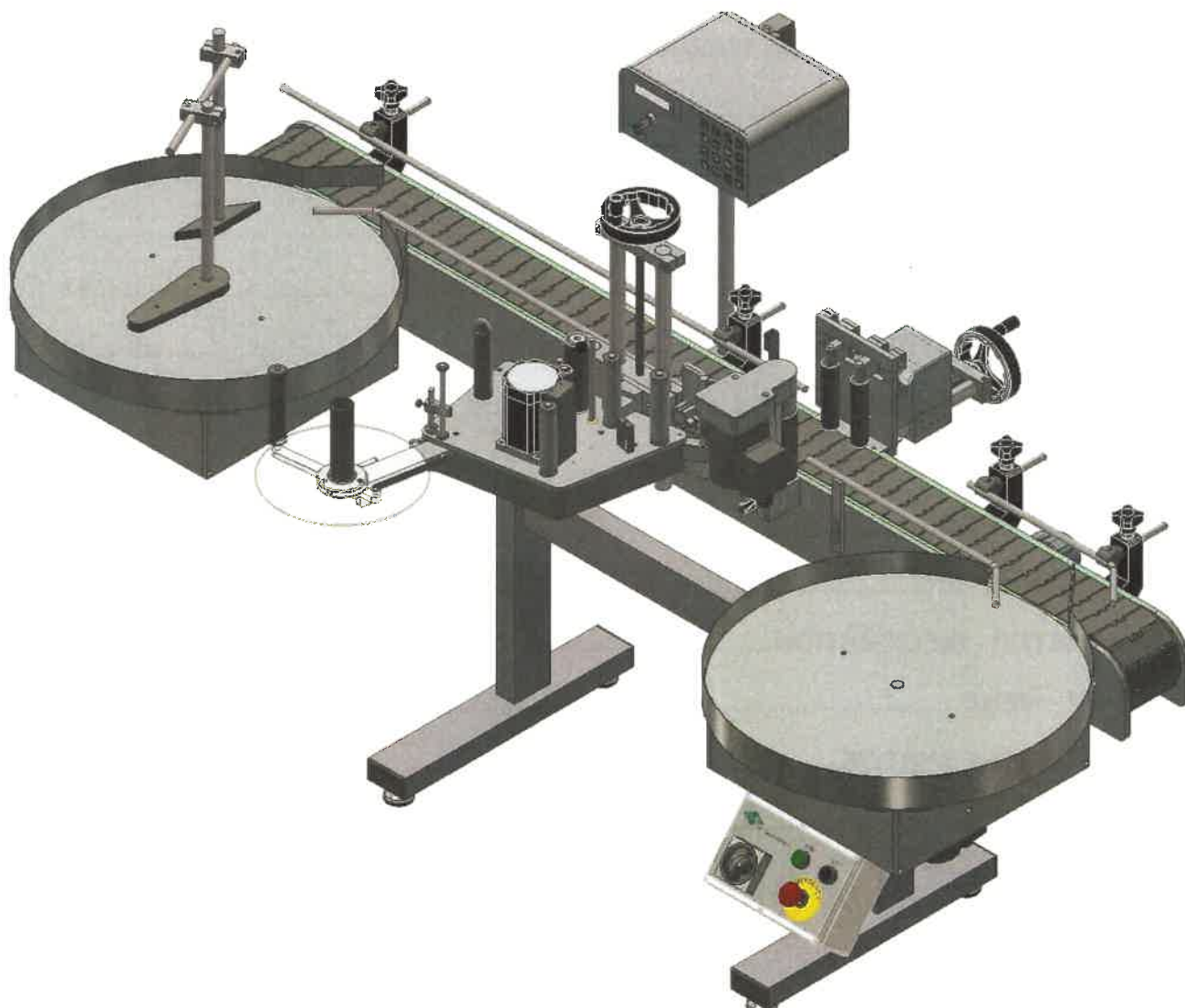


MANUAL

3-Roller S4



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INTRODUCTION

This manual refers to EME System “3-Roller Series 4-xxx” with an option for orientation of products, before labelling.

CE SIGN

Near the drive motor of the conveyor is mounted a CE sign.
Be sure NOT to connect this machine to a different voltage than informed on the sign.

An example of the sign:

Type:	MO-1630-S200
Serial No.:	11634
Voltage:	220-240Vac 50-60Hz
Watts:	600W
Project:	1007987
Year:	2010

 Frydensbergvej 17
DK - 3660 Stenløse 

EU DECLARATION OF CONFORMITY

We:

EME - etiketteringsmaskiner ApS
Frydensbergvej 17-19
DK - 3660 Stenløse

hereby declare on our responsibility, that the following product:

Labelling machine type EME 3-Roller-2000/4.5-S4 Serial no. 19724

Which is covered by this declaration, conforms with the following standard(s) and other normative documents:

EN ISO	12100:2010
EN	60204-1:2006
EN	61000-6-2:2005
EN	61000-6-4:2007

according to the rules and regulations in Directive 2006/42/EC, 2014/30/EU and 2014/35/EU, about mutual approximation of the legislation covering machines in the member countries.

Stenløse, 10 June 2021



Henrik Juul Andersen

SECURITY REFERENCES AND WARNINGS

Before using the machine, this manual must be read through carefully.

The manual contains important references for installation, use and maintenance of the machine. If any part of the information is not understandable or if there is any part you are uncertain about, please contact and ask your supplier, before starting the machine.

The manual must be kept careful and passed on to any new operator of the machine.

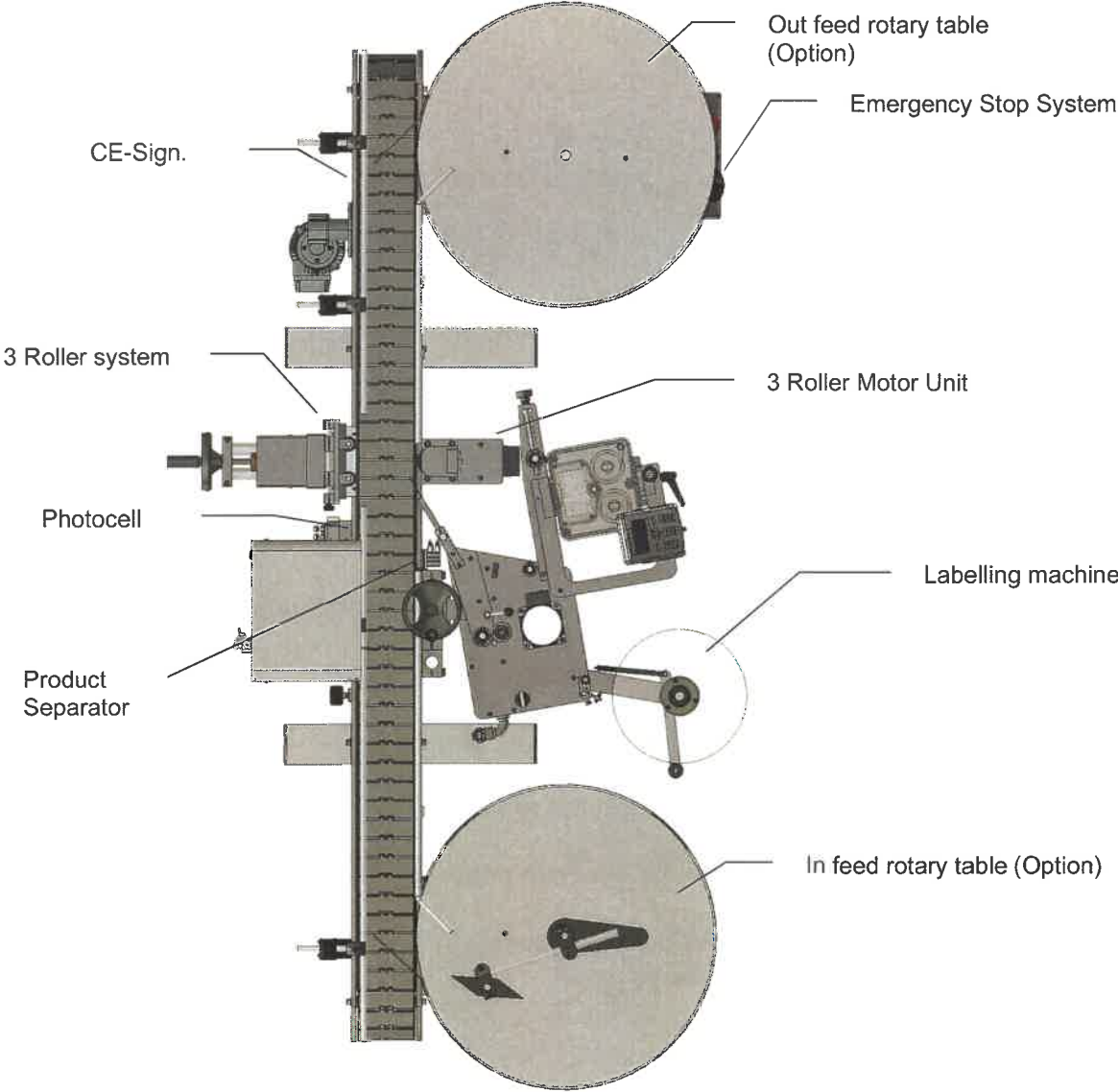
The manufacturer is not responsible for any event, if the following references are not followed:

- Crates/wrapping material to be removed. (It is a good idea to keep it in, case the machine needs to be send back for service).
- If the machine is damaged, it may not be taken into operation. Are you uncertain, ask your supplier.
- The machine may only be used for the purpose, described in the operation manual.
- During set up and connection of the machine, the operation manual must be followed.
- The machine may only be connected to electrical supply, according to the specifications marked on the sign of the machine. If the power plug mounted on the electrical wire on the machine is not in accordance with the rules and demands covering the place of operation, the plug must be exchanged with a type which is legal/in accordance with the rules, at the place of operation.
- The electrical security of the machine can only be guaranteed, if the electrical installation at the place of operation includes grounding of the electrical system, installed in accordance with the regulations.
- Do not use extension cord.
- Reparations and other interference may only be carried out by an educated technician.
- In case of errors and during maintenance work, the electrical supply must be turned off. The electrical plug must be taken out of the supply line or the fuse switched off. If the machine is connected to other supply-lines, they must be turned off as well.
- In case a machine is defect or worn out, it must be taken out of operation. All electrical and other supply-lines must be de-connected, and a sign must be mounted on the machine, to inform that it is defect and should not be used.

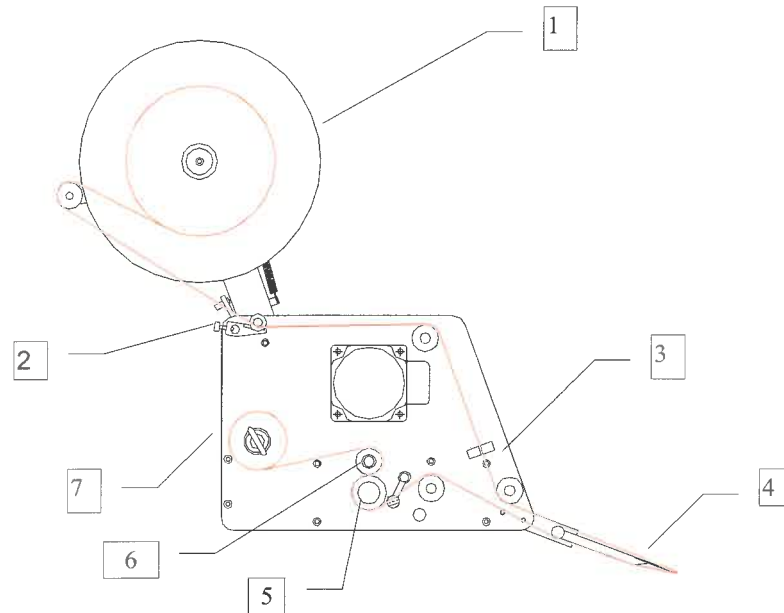
SECURITY-REFERENCES AND WARNINGS

- Use only original spare parts when repairing the machine.
- Only personnel familiar with the content of the manual/having received instruction in the use of the machine may act as operator(s) of the machine.
- Solvents may not be used to clean the machine, due to the RISC of explosions and the health and security of the personnel.
- Power cords and tubes must be mounted in a secure way, in order not to cause any RISC or inconvenience to the operator and other personnel.
IMPORTANT! The power cord may never lay on the floor or any other place where it can be stepped on. It can be fatal to step on a power cord!
- In order to guarantee the stability of the machine, it must be placed on a level plane, which as minimum can carry the machine, the personnel and the products, multiplied with a factor 10.
- Do not place products or containers near the machine, if they are a nuisance for the operator.
- The machine may not be sprayed with water or any other fluid.
IMPORTANT! The power cord to the machine must be removed before cleaning. It can be fatal if water or any other fluid comes in contact with the electrical systems.

LABELLING SYSTEM



LABELDISPENSER



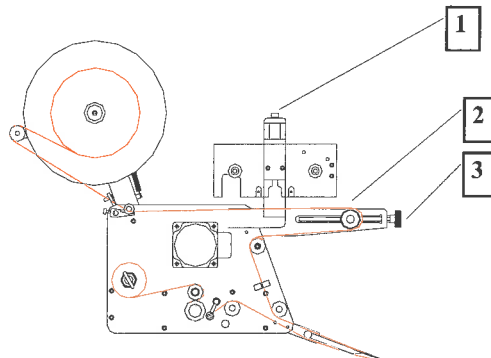
1. Side disc to support label roll. To release it, turn disc on shaft.
2. Felt brake to adjust web tension and keep it straight.
(Correct tension is important for accurate/constant label position on product).
3. Photocell to detect gap between labels.
4. Dispenser edge plate, for dispensing the label.
5. Drive roller moves paper through the machine.
6. Friction roller ensures contact between paper and drive roller.
7. Re winder for rewinding of backing paper.

CONTROL BOX



	ONLINE / OFFLINE
	3 Roller functions and applicator output
	Check of print, Check of labels on products, Reject station
	Adjusting the speed of the dispenser. Speed is set in <i>meters per minute</i> . Adjust with + & - keys..
	Determines the label position on the product. Changes are in <i>millimetres</i> . Adjust with + & - keys.
	Adjust the label front edge in relation to the dispensing edge. Adjust with + & - keys.
	Adjust print time and heat for hot-foil coder, type M-01. By 1 x press on key, print time can be adjusted. By 2 x times press on key, heat level can be adjusted. Adjust with + & - keys.
	Adjust sensibility of the label gap photocell. Value "1" indicates label, value "2" indicates backing paper/label gap. Adjust with + & - keys.
	Adjust blocking of start signal and product separator, if installed. By 1 x press on key, adjust length of time for blocking of start signal. By 2 x press on key, adjust delay time for product separator. Adjust with + & - keys.
	Will save/store the settings. By 1 x press on , select the program number to save/store under desired number (0-24). Adjust with + & - keys. Press again to confirm/save the settings under the selected number. The program number can then be named. Press to access letters. Select letters with + & - keys. For next character, press . Spaces can be selected by . Digits can be selected by . When name is correct, press .
	Recalls stored information. Press and select the desired program number. Scroll with + & - keys. When desired number is in display, press again.
	Press the key for 10 seconds and the following basic settings can be adjusted: Acc. curve. Machine type. Offset Default length Direction right/left Distance from sensor to dispensing edge Language Keypad lock NO/YES Encoder yes/no Encoder step (0.250 EME std.)

M-01 HOTFOIL CODER (OPTION)

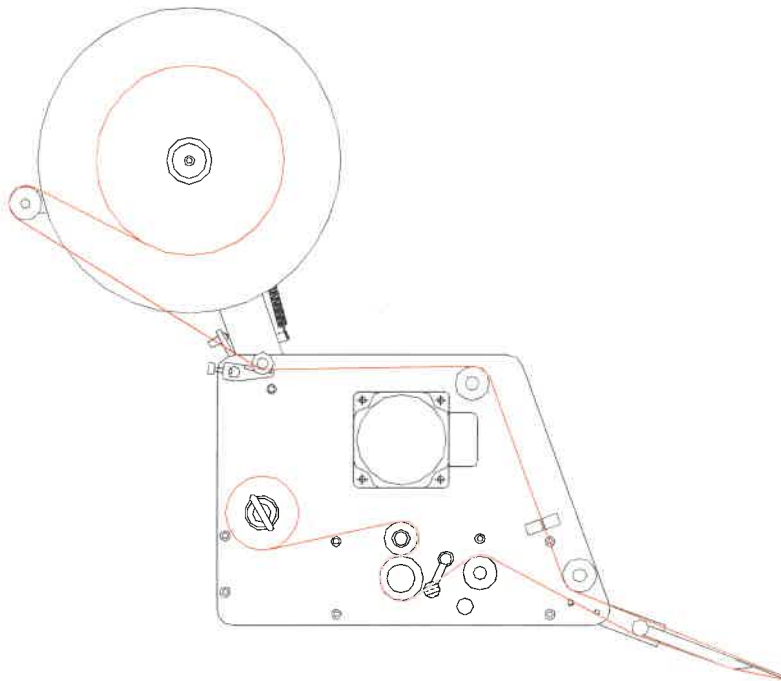


1. Handle for adjusting position of hot-foil coder across web/label.
Is also used for turning the complete coder.
2. Roller to turn label web direction. It can be adjusted in position, to move the print position on the label.
3. Adjustment wheel to move roller.
PLEASE NOTE: Remember to release the locking hand wheel at the end of the roller, before turning the adjustment wheel, and to lock it again after new setting.

Instruction for hot-foil coder, model M-01:

- Mount the desired type in the type holder.
- Adjust the print position across the label web by handle "A".
- Adjust the print position along the label web, by moving roller "B".
Remember to lock the roller in the new position, by the locking handle.
- Print time and temperature can be adjusted from the control box.
Read "print time" & "temperature".
- For adjusting the draw length of the foil per print, the 10mm nut inside the coder must be re-positioned.

Label-thread



1. Mount a label roll on the roller, between the 2 side discs.
2. Thread the label web through the machine, as indicated on above drawing.
3. Turn the friction roller by the handle, to bring it in contact with the drive roller.
4. Mount the backing paper on the re winder roller, by the metal clip.
5. Turn manually the drive roller forward, to dispense 2 labels.
Please note, the drive roller can only be turned, if the power is off.
6. Set the adjustable rings near the felt brake close to the side of the label web.
7. Adjust the felt brake pressure, to give a noticeable resistance in the web.

Starting the system

With saved label parameters:

1. The operator must have received detailed information about the operation- and safety instructions for the system, before starting to operate the system: Reading the operation manual with special attention to the safety instructions.
2. The grey main switch must be in OFF position.
3. Position a product in the "3-Roller System". Adjust the Idler rollers.
4. Adjust guides by turning hand wheel "B".
5. Mount labels in the dispenser according to the diagram in the manual.
6. Remove 2 labels from the backing paper, before the dispenser edge.
7. Turn the grey main switch in "ON" position. Located on side of frame.
8. Press the green start switch and also the black stop switch.
9. Switch on control box on its backside.
10. On the control box panel, press key , and select the desired set up in the list, by pressing key "+" or "-". When desired set up name is in the display, press  again.
11. Press twice on key . The dispenser will feed 2 label positions forward.
12. Press the green start button.
13. Run one product through the system and evaluate the labelling result. If required, adjust the Label position by pressing key . Change parameters with + or – key.
14. If the product is not feeding correct into 3-roller system, press key  and adjust in feed delay.

START OF LABEL DISPENSER

Quick- guide to start the dispenser with a new label:

1. Mount labels in the dispenser.
2. Switch on the dispenser.
3. Make the following settings:
 - Label front to fit dispenser edge.
 - Speed of the dispensing.
 - Position of label on the product.

The dispenser can set the first 2 parameters automatically:

Set front of label to fit dispenser edge:

Press key . The display shows then "ADJUST LABEL EDGE ►".

Then press the key . The dispenser will begin to feed labels forward and measure the length of the label and detect the gap between the labels. After few labels the feeding will stop and the front of a label will stop at the dispenser edge.

Adjust eventual the stop position of the label by   keys.
This will move the label material forward or backwards.

Speed setting:

Manuel setting:

Press the key  until the display shows "SPEED xx.x"

Adjustment can be done with the keys  .

Label position adjustment:

Press the key  and the display shows "LABEL POSITION xx.x"

Adjust with the keys  . The shown value in the display is in millimetre.

ENCODER CONNECTION

The dispenser can operate an encoder.
The type of encoder must be NPN with an armed cable.
EME offers from stock a model with a universal mounting bracket.
This model has a step resolution on 205.

Connection:

Connect the plug to the 3 pin connector on the rear panel. (Pin 1: 0 Vdc, Pin 2: +24Vdc, Pin 3 NPN signal.)

Set up the function:

Activate the setup menu by pressing the key  for 10 seconds.

Repeat to press key  until display shows "ENCODER".

Press the key  to select between YES or NO.

Press the key  again. The display shows "ENCODER STEP".

Press the key  to set the correct value.
The correct value is the number of millimetres the wheel runs per 1000 pulses.

Format: (Circumference / pulses per rotation) * 1000

Example:

Encoder = 1000 pulses per rotation.
Wheel diameter = 60mm. Circumference = 188 mm.

$$(188 / 1000) * 1000 = 188$$

Value in "ENCODER STEP" must be set on 188.

SAVE AND LOAD

The microprocessor control will automatically store the setting that are made in the SET UP menu. Other parameters, like speed, delay, etc. must be stored by the operator. 25 Labels/products can be stored.

Save:

- Press the key  to initiate the save procedure.
The display shows: "SAVE AS".
- Select a program number. Scroll in available numbers with key  .
- When the desired number is shown in the display, press again key .
The display shows: "INPUT LABEL NAME".
- A name can now be connected to the selected number.
If so desired, press  and get access to letters. Select with   keys. Change cursor position with .
- When the name is ready, press again the key . The data is saved.
The display shows: "LABEL IS SAVED".

NOTE: If the system is switched off before the save procedure is complete, the data will not be stored.

Load:

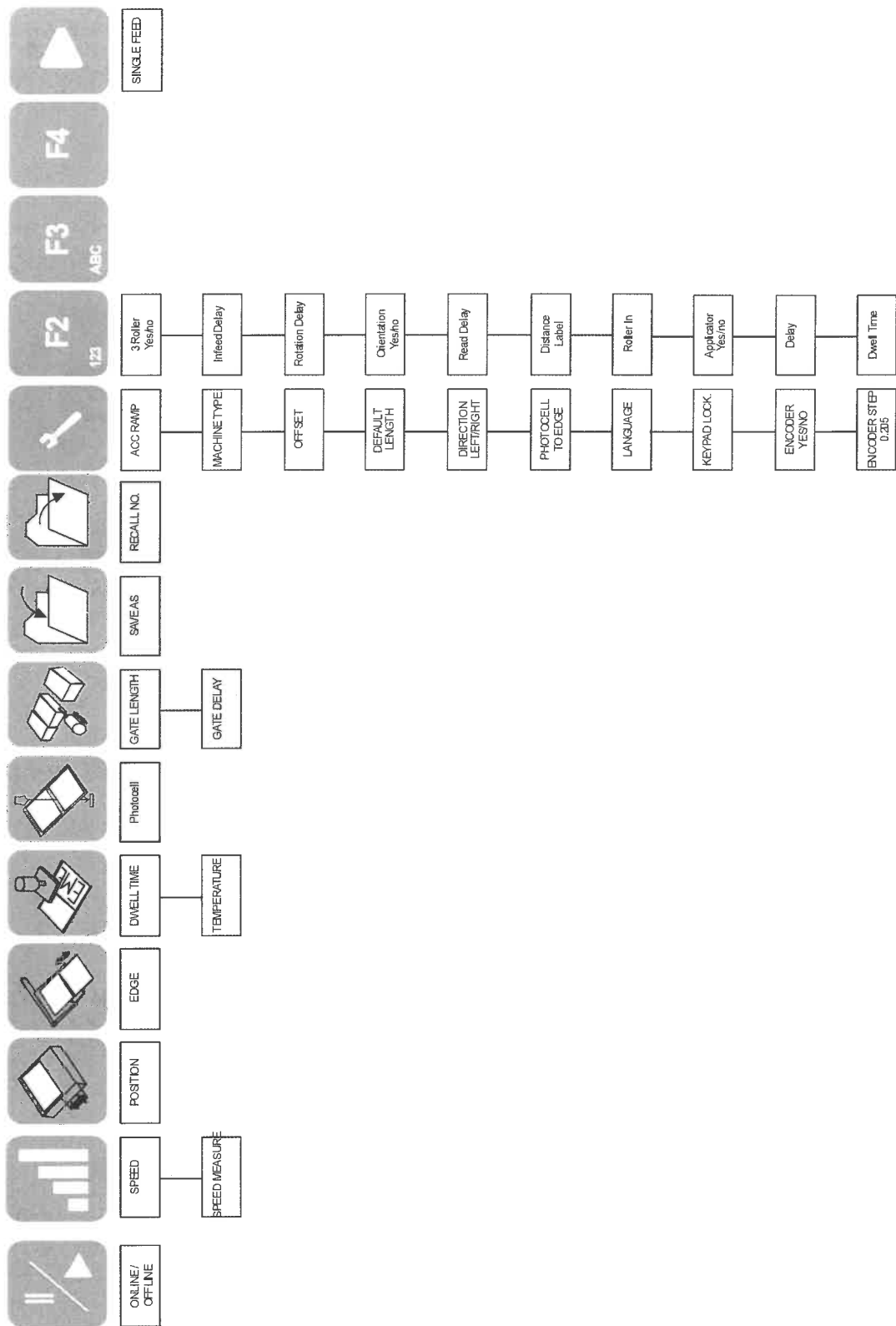
- To load settings for a label from the memory, press key .
Display shows: "RECALL".
- Select program number. Scroll with  . When the desired number is shown in the display, press  again.

Display information:

The upper line in the display shows the actual program number and its name.
The lower line shows a parameter, like SPEED, plus a value.



MENU STRUCTURE



PARAMETER - INFORMATION

Speed:

Setting the speed of the dispenser in meters per minute. Adjust with key  .

The speed of product and label should be similar.

Operation area: 0-40 m/min.

Speed measure:

By running a 200mm long non transparent material pass the start photocell, an automatic setting of the dispenser speed will be made.

Read also: *Start of dispenser.*

Label position:

Adjusting the position of the label on the product. The value is in millimetres.

Area 0,0 - 9999.9mm.

Edge position/automatic setting:

By pressing key  the dispenser will start to feed labels and measure label length and gap between labels.

After a few labels the feeding will stop and the front of a label will stop at the front of the dispenser plate.

With the keys   the label can be moved forward and backward in relation to the dispenser edge.

Edge position/manual setting:

Adjust the front edge of the label, to the edge of the dispenser plate, with the keys  .

The label can be moved forward and backwards in relation to the dispenser edge.

Coder:

Print time.

Setting the print time if the EME hot-foil coder is installed.

Adjust with key   By pressing key <▶>, the coder is activated.

Units: milli seconds. Area: 0.0 - 500 ms.

Temperature.

Will set the heating level of the EME hot-foil coder.

Units: degrees Celsius. Adjust with key  .

Area 50-150 gr. C. (Do not set higher than 120 g C).

Label photocell:

For setting the sensitivity of the label gap photocell.

Press the key .

To the right of the display text "PHOTOCELL" a value is shown: 1 or 0.

1 = label + backing paper.

0 = backing paper.

Adjust sensitivity with   keys if a manual adjustment is needed.

If backing paper alone gives value 1, adjust to a lower value  .
Area 0-255.

To adjust label gap photocell automatically, press the key  again.

The microprocessor can adjust the sensitivity of the label gap photocell automatic.
Place a piece of BACKING PAPER WITHOUT LABEL in the label gap sensor.

Then press key . The setting is now made automatically.

Adjust eventual the setting with   keys.

NOTE: This function is not working with a mechanical micro switch.

Separator:

This key/function is also used for blocking extra start signals.

Will set a time in which only the first start signal will be accepted.

If a product generates more than one start signal, only the first signal is desired to initiate the dispenser. The other signal can be ignored, if the timer is set for a period so long that the product has passed the start photocell before the time runs out. The length of the signal is therefore related to the length of the product and the speed by which it is moving.

Press key .

The display shows "HOLD LENGTH XXX.X"

The value is in millimetres and will block for additional start signals for this length.

If a separator is connected to port U4-6, the HOLD LENGTH value is the time in which the separator will block for products.

Press key  again.

The display shows "GATE DELAY XXX.X"

This timer setting will set a time delay, before a product separator will be active, after the start signal from a start photocell or other signal device.

Area is in millimetres and must be set to minimum the product length or diameter.

Under  following can be adjusted:

1. 3 roller ON/OFF
2. In feed delay
3. Rotation Delay
4. Orientation Yes/no
5. Read Delay
6. Distance label
7. Roller IN
8. Applicator NO/YES
9. Delay
10. Dwell time

All settings are saved with the label-job

1. Turns 3 Roller function ON/OFF
2. Timer from start signal to roller is activated
3. Delay after label is applied and roller goes back.
4. Spot labelling, if label should be applied to a mark on the product.
5. Read delay, time before orientation sensor is active
6. Distance labels, if two labels need to be applied at one product.
7. Manual activation of the Rollers. Press “+” and the rollers goes in, “-“ key return the roller
8. Applicator NO/YES, if pneumatic movement should be controlled from controller
9. Delay, time before applicator goes ON
10. Dwell time: How long time applicator should be active.

Save:

Will save/store settings under a selectable number:1 to 25.

By pressing key , a number can be selected.

The display shows "SAVE AS". Use   keys to find the desired number.

When the number is selected, press  again.

Now a name can be entered, if desired. If not, press  again.
The display shows "LABEL IS SAVED".

If a name is desired, press  and get access to letters, press  for digits and 
for space. Scroll with   keys.

To move to next character, press .

When the name is correct, press  key, to save/store settings.

Load:

Will load/recall a setting.

Press key  and use   keys to find the desired number.

Press  again to bring the setting into the control unit.

Online:

By pressing key  the dispenser can be set ONLINE or OFFLINE.
In OFFLINE mode, the dispenser will not start if the start photocell is activated.

SET UP menu:

By pressing key  and holding it for 10 seconds, the SETUP MENU will be opened.

See the following.

Set up - menu

The Set up menu is mainly used during the first installation of the system. Basic settings like language, encoder, acceleration curves, etc. can be set here.

To enter the **SET UP menu**, press and hold the key  for 10 seconds. The menu will appear as follows:

ACC. RAMP:

Determine the angle of the acceleration curve. High value = high curve. At high speed or large labels, the value should be as low as possible. Possible settings: None / Slow / Normal / Fast.

Scroll with   keys to select value. Press key **<ON LINE>** to move to the next function.

Offset:

Key in the distance between the start photocell and the dispenser edge. If a label position then is set on 100, the label will be placed 100mm from the front edge of the pack. This will make it easier to make correct settings in label position.

Press key  to move to the next function.

Default length:

Will set the maximum length of label material to run through the dispenser, if no stop signal from a label gap is detected. The value must be higher than the longest label to run in the system. Unit: millimetres. Area 0.0 - 9999

Scroll with   keys to select value. Press key **<ON LINE>** to move to the next function.

Dispenser right/left hand model:

Will change the running direction of the drive roller.

Scroll with   keys to select. Press key  to move to the next function.

Photo/edge:

The value must be the distance between the label gap sensor and the dispenser edge. If the value is not correct, the label edge will not stop at the dispenser edge, when the automatic adjustment is initiated.
Default value is 265mm.

Scroll with   keys to select value.

Press key  to move to the next function.

Language:

The microprocessor contains 10 languages as standard. Select between the following:

DK, UK, S, N, F, NL, D, P, CRO, HR.

Scroll with   keys to select.

Press key  to move to the next function.

Control panel/Key pad lock:

The buttons on the control panel can be locked, so that only the keys , ,  &  are active.

This serves to limit the risk for changing settings by an error.

To activate the lock function, use key     to set YES in the display.
Now the control panel is locked and only the few keys are active.

To re-activate all buttons, go into the SET UP menu again, to the above MENU point and set the display to NO.
menu.

Encoder:

Encoder, YES/NO. If encoder is mounted, the setting must be YES.
When the speed of the product is changing, the dispenser will follow the speed variation.

Encoder step:

“Electrical gear”. Will change the pulses from the encoder, to a calculated distance.
The value to be set, must be the product movement per 1000 pulses.
See the formula on page 14.

$(\text{Circumference} / \text{pulses per round}) * 1000.$

Area: 0-1000. (Should be below 200 to obtain precise measuring.

Only to be used if encoder is attached

Starting the system

With NEW label parameters:

1. The operator must have received detailed information about the operation- and safety instructions for the system, before starting to operate the system: Reading the operation manual with special attention to the safety instructions.
2. The grey main switch must be in OFF position.
3. Position a product in the "3-Roller System". Adjust the Idler rollers.
4. Adjust guides.
5. Mount labels in the dispenser according to the diagram in the manual.
6. Remove 2 labels from the backing paper, before the dispenser edge.
7. Turn the grey main switch in "ON" position. Located on emergency box.
8. Press the green start switch and also the black stop switch.
9. Press . Use + or - key to adjust label edge. (Note: Value must never be higher than label length)
10. Press  and adjust speed to approx. 20.7 M/min. (Rotation Speed)
11. Press  one time, one label is now dispensed.
12. Press the green start button.
13. Run one product through the system and evaluate the labelling result. If required, adjust in feed delay for idler rollers by pressing  key, increased value = longer delay.
14. Adjust Product Separators settings if necessary. If coder is mounted, please refer to page 10 & 17.
15. It is possible to save all parameters, see page 20.

MAINTENANCE

To ensure a safe and correct working system, the following must be carried out:

Weekly:

Cleaning/removing parts of labels/adhesive from the machine. The following areas are vital to ensure correct functions of the machine:

- Shaft at the felt brake.
- Label gap photocell.
- Dispenser edge plate (on both sides).
- Smooth roller positioned just before edge plate.
- Friction roller.
- Drive roller. (Never use hard tools for cleaning. Rubber surface might be damaged).

Monthly:

- Check if felt on brake is clean and flexible. If hard or damaged, please replace.
- Item number. 00.70.00.
- Re winder should have few drops of oil.
- Check if re winder is working correct. Tension can be adjusted by turning the 8mm nut inside the re winder tube.

In general, the machine must be kept clean.

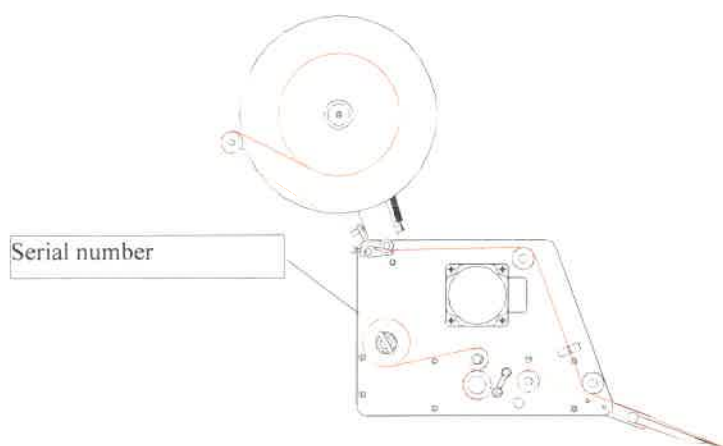
PLEASE NOTE: Covers on the dispenser and on the control box, should only be removed by educated personnel, authorized by the supplier.

SPARE PARTS

EME labelling machines requires only few spare parts.
However, it is recommendable to have the access to the following:

- 00.70.00 Felt brake.
- 00.70.22 Adjustment screw.
- 00.72.03 Label gap photocell, series 4000.
- 00.78.60 Re winder belt, Series 4000.
- 00.80.60 Drive belt, Series 4000.

If parts are required for a dispenser, it is sensible to inform your supplier about the serial number of the system: Example: no. 5800 99 4120 2



SPECIFICATIONS

Machine weight:	150kg
Dimensions:	2000x1200x1500mm.
Label width:	15-120mm.
Label length:	15-250mm.
Label roll:	Max Ø270mm.
Capacity:	Max. 50 labels/min. (related to product/label size.)
Labelling speed:	0 - 40 M/Min (3 roller speed fixed, approx 20.7 M/min.)
Noise, air born:	Less than 70 dB(A)
Supply:	230Vac 50/60 Hz $\pm 10\%$.
Consumption:	800 Watt.

FAULT FINDING

Too much label per product:

Reason	Correction
Label gap photocell has wrong adjustment.	Adjust the photocell by pressing key  . Adjust with + & - keys. Display shows: 1=label 0=backing paper.
Dirt in label gap photocell.	Clean carefully the photocell. Never use never metal tools. Use soft products/tools.
Dispenser treaded incorrectly	Read section <i>load labels</i> , in manual.

The machine is not running:

Reason	Correction
230Vac connected?	Control if 230Vac arrives to the machine. Control fuses.
Main cable attached ?	Correctly connect cable between Control Box and Dispenser

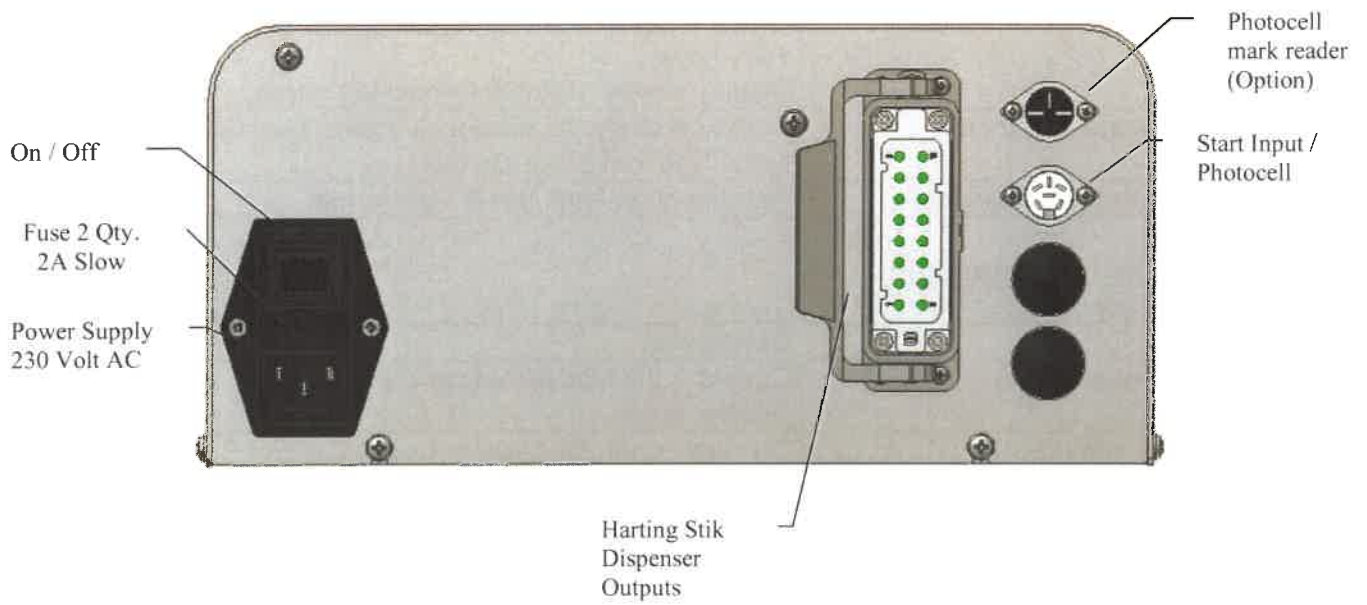
Missing/no label on product:

Reason	Correction
Start photocell is blocked.	Ensure that photocell reflects on Mirror
Signal blocking is active.	Blocking time is too high. Press key  and adjust the value to a lower level. Adjust with + & - keys.
No friction between drive- and friction rollers.	Turn the handle at the friction roller, to bring it in contact with the rubber drive roller.
Wrong thread through dispenser.	Follow the manual regarding this instruction.

Incorrect label position:

Reason	Correction
Wrong speed.	Adjust the speed of the dispenser, to be same as speed of product.
Missing or too high pressure from felt brake.	Adjust the felt brake, by the adjustment screw on the rear side of the felt brake.
Wrong distance between product and dispenser edge.	Adjust the position of the dispenser, to have a distance of 2-3mm between dispenser edge/product.

CONTROL BOX CONNECTIONS



CONNECTIONS IN CONTROL BOX

