

**ENGLISH**

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## Introduction

First we would like to thank you for purchasing the hm 850 DC hawomed sealing machine. These instructions include information on the machine, its function and operation.



Please read these operating instructions thoroughly before using the machine so that you will be familiar with the capabilities of the machine and can utilize its features to the optimum.



Always keep these instructions in the vicinity of the machine.



### Important note:

This device is a packaging machine for the processing of thermoplastic films and composite films according to the thermal – bonding or sealing process.

In this respect , please pay attention to the “Intended use” chapter in the operating instructions.

According to the intended use , the CE symbol was affixed on the basis of the EU Directives named below:

98/336/EEC, 98/932/EEC supplemented by 91/368EEC, 93/44EEC and 73/23EEC amended by 93/68EEC.

The 93/42EEC Directive is not applicable to bonding and sealing devices.

The limit values stipulated in IEC 60601 – 1 cannot be applied in case of the electrical repetition tests.

The manufacturer will not assume any liability for damage caused by tests according to standards which are not listed in the declaration of conformity .

#### Note

Since we continuously improve our products we reserve all rights to modify these operating instructions and the functions described therein.

We make all possible efforts to keep these instructions free of errors and complete. If you note any errors or unclear points

please advise us

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### Guide to these Operating Instructions

<b>Before Starting</b>	<p>This chapter contains information on the functions of the machine and instructions for handling and installation.</p> <p><b>BE SURE TO READ!</b></p>
<b>Basic Functions</b>	<p>Adjustment and operation of the machine are explained here.</p>
<b>Troubleshooting and Maintenance</b>	<p>Instructions for finding causes of malfunctions and eliminating them. This chapter includes information on the required maintenance, parts subject to wear and replacement parts.</p>
<b>Technical Data</b>	<p>Shows the interrelationship between various item numbers, the circuit and diagram plans and machine specifications.</p>

### Intended Use

The hm 850 hawomed machine is intended for commercial and industrial applications and should be used only for the intended purpose.

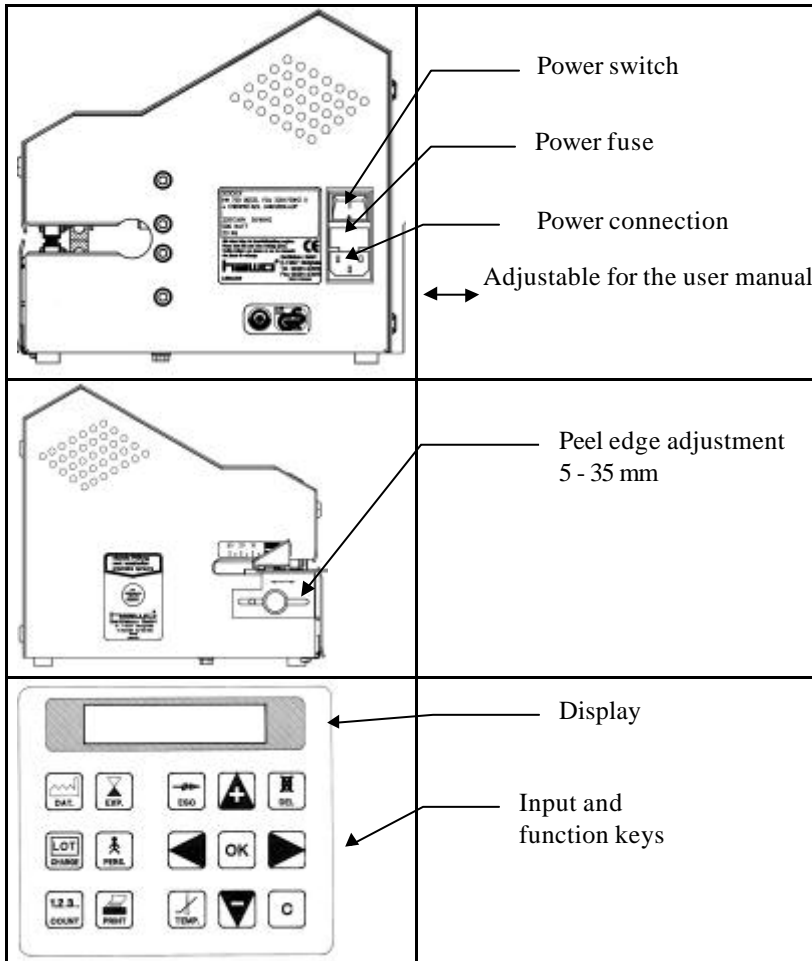
The hm 850 hawomed machine is a sealing machine for sealing sterilization packages consisting of paper, paper laminate foil or Tyvek foil.

- ! **It is not suitable** for sealing pure polyethylene foils, soft PVC foils, hard PVC foils, polyamide foils or polypropylene foils.

The machine capacity depends on the characteristics of the sealing material used.

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**Set-Up and Function**



**Sealing and Printing Operation Sequence**

1. After inserting the sterilization package switch on transport.
2. The sterilization package is then transported and the area of the sealing seam is heated to the sealing temperature set on the upper and lower heating dies.
3. The hot seam is pressed together by the sealing roller sealing it.
4. The printing operation is activated and the activated print data is printed onto the sealed package.
5. The finished sterilization package is transported to the discharge side.
6. If more packages to be sealed are not fed in the transport mechanism shuts off after approx. 30 s.

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## General safety instructions



The device must not be installed or operated by persons under 14 years of age.

The device must not be operated unattended.

Turn of the device or disconnect the power cord when it is not in use.

## Installation



Do not install or operate the machine in explosion hazard areas.



Use only power sockets with protective ground.



Set up the machine only in dry areas.  
Heavy dust, vapor, dripping or spraying water have a negative effect on the machine functions.



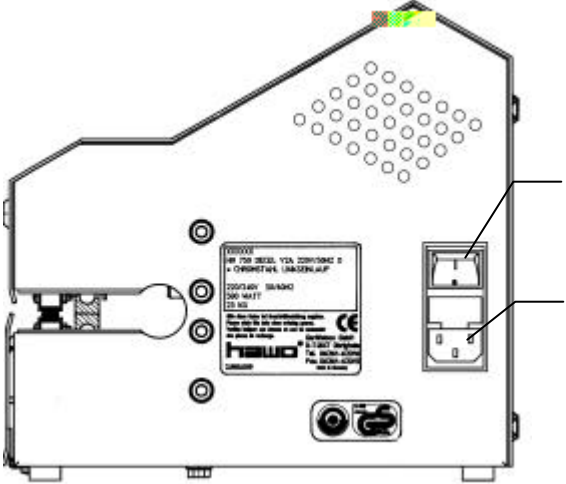
Always ensure that the operating power corresponds to the specifications on the machine rating plate.




Please choose a socket where the line power is stable.

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**Start-Up**

<ul style="list-style-type: none"> <li>● Plug power cable into power socket on machine</li> <li>● Insert plug into wall socket</li> <li>● Switch on machine with power switch</li> </ul>	 <p>The diagram shows the rear panel of the hm 850 machine. At the top, there is a power switch with a red indicator light. Below it is a power socket labeled 'Switch connection'. To the left of the power socket is a technical specification label with the 'hauco' logo. At the bottom, there are two circular ports.</p>	<p>Power switch</p> <p>Switch connection</p>
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FUNCTION			DISPLAY	
<p><b>Machine switched on</b> Self-test runs for approx. 30 s</p>		<p><b>Please wait</b></p>		
<p>Display for approx. 5 seconds: V2.8 = Program version 956579 = Machine number</p>		<p><b>Control 850 V2.8</b> <b>956579</b></p>		
<p><b>If maintenance deadline is exceeded</b></p>	<p>Acknowledge maintenance message</p> <p> <b>Perform maintenance</b></p> <p><input type="button" value="OK"/></p>	<p><b>MAINTENANCE</b></p>		
<p>Display of date, time Actual temperature. Settemperature</p>		<p><b>17-02-00 14:30 025°C</b> <b>Nominal temp 140°C</b></p>		
<p>After 5 minutes is the set temperature reached <b>Machine is ready for operation</b></p>		<p><b>17-02-00 14:35 140°C</b></p>		




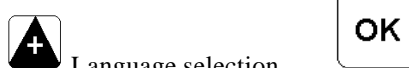

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### Programming Aids



FUNCTION	KEYS	DISPLAY
<b>INPUT AIDS</b> <b>Cursor control</b> Press - cursor right - key once	 Cursor left      Cursor right   <b>1x</b>	<div data-bbox="1038 398 1469 488" style="border: 1px solid black; padding: 2px;"> <b>100°C</b>                      ^ Cursor flashes at 1<sup>st</sup> digit                 </div> <div data-bbox="1038 495 1469 584" style="border: 1px solid black; padding: 2px;"> <b>100°C</b>                      ^ Cursor flashes at 2<sup>nd</sup> digit                 </div>
<b>INPUT AIDS</b> <b>Changing numbers and letters</b> Press key - position +1 - once	 Position +1      Position -1   <b>1x</b>	<div data-bbox="1038 593 1469 683" style="border: 1px solid black; padding: 2px;"> <b>100°C</b>                      ^ 1<sup>st</sup> digit is number 1                 </div> <div data-bbox="1038 689 1469 779" style="border: 1px solid black; padding: 2px;"> <b>200°C</b>                      ^ 1<sup>st</sup> digit is number 2                 </div>
<b>INPUT AIDS</b> Return to previous menu point without activating entry		
<b>INPUT AIDS</b> Activate input		
<b>INPUT AIDS</b> Space at selected point Set piece counter to 0		

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### Configuration

FUNCTION	KEYS	DISPLAY
<b>CONTRAST SETTING</b>	  Contrast ↑ Contrast ↓	<div data-bbox="925 465 1353 555" style="border: 1px solid black; padding: 2px;">             HAWO Gerätebau GmbH              display - contrast           </div>
<b>DATA INPUT</b> Language selection symbols  Language: German, English, French, Spanish, Italian  Symbols: yes/no	   Language selection   yes / no	<div data-bbox="925 627 1353 712" style="border: 1px solid black; padding: 2px;">             set language              GB           </div>  <div data-bbox="925 817 1353 907" style="border: 1px solid black; padding: 2px;">             pictogramm                      NO           </div>

























### Printer Set-Up

FUNCTION	KEYS	DISPLAY
<b>PRINTER SET UP</b>  <b>Printing direction</b> 0° <span style="border: 1px solid black; padding: 2px;">PNR</span> 180° <span style="border: 1px solid black; padding: 2px;">PNR</span>  <b>Start printing</b> 0 - 99 mm <span style="border: 1px solid black; padding: 2px;">PNR</span> <small>↑                      ↑</small> <small>0 - 99</small>  <b>Character width</b> 0 - 5 <span style="border: 1px solid black; padding: 2px;">PNR</span> <span style="border: 1px solid black; padding: 2px;">PNR</span>  <b>Character interval</b> 0 - 5 <span style="border: 1px solid black; padding: 2px;">PNR</span> <span style="border: 1px solid black; padding: 2px;">P N R</span>	 Yes / No   0 / 180  <b>Input</b> Start printing <span style="border: 1px solid black; padding: 2px;">OK</span>  <b>Input</b> Character width <span style="border: 1px solid black; padding: 2px;">OK</span>  <b>Input</b> Character interval <span style="border: 1px solid black; padding: 2px;">OK</span>	<div data-bbox="925 1120 1353 1205" style="border: 1px solid black; padding: 2px;">             printer set up              YES           </div>  <div data-bbox="925 1265 1353 1350" style="border: 1px solid black; padding: 2px;">             print out              0           </div>  <div data-bbox="925 1496 1353 1581" style="border: 1px solid black; padding: 2px;">             distance              00                                      0-99mm           </div>  <div data-bbox="925 1742 1353 1827" style="border: 1px solid black; padding: 2px;">             character width              0                                      0-5           </div>  <div data-bbox="925 1933 1353 2018" style="border: 1px solid black; padding: 2px;">             character distance:              0                                      0-5           </div>



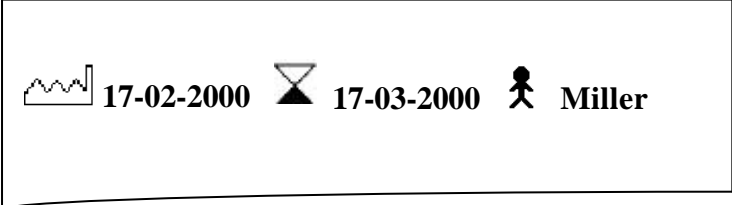
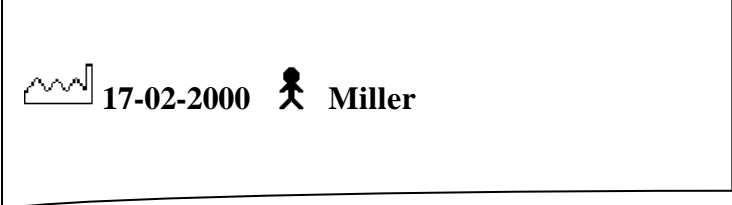
hm 850	Basic Functions	4
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



### Data Input

FUNCTION	KEYS	DISPLAY
<b>TEMPERATURE</b> <b>Nominal temperature input</b> 1 150 - 220 °C 2 120 - 150 °C 3 80 - 120 °C	 ↓  Input Temperature  1,2,3 	<div style="border: 1px solid black; padding: 5px;">                         nominal temp.  <b>175°C</b> <span style="float: right;"><b>1</b></span> </div>
<b>DATA INPUT</b> <b>Date and time</b> Input of 6 different date formats  1 dd-mm-yyyy 2 mm-dd-yyyy 3 yyyy-mm 4 mm-yyyy 5 yyyy 6 yyyy-mm-dd	 →  ↓  1,2,3,4,5,6  Input date, time 	<div style="border: 1px solid black; padding: 5px;">                         format date &amp; time  <b>DD-MM-YYYY</b> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <b>DD-MM-YY hh:mm</b>  <b>17-02-2000 08:57</b> </div>
<b>DATA INPUT</b> <b>Expiration date</b> Enter 3 different expiration dates, ex works: 1= Date + 1 Month 2= Date + 3 Month 3= Date + 6 Month	 ↓  1,2,3  Input Expiration date 	<div style="border: 1px solid black; padding: 5px;"> <b>DD-MM-YYYY</b>  <b>17-03-2000</b> <span style="float: right;"><b>1</b></span> </div>
<b>DATA INPUT</b> <b>Charge number</b> 10-digit, alphanumerical	 Input Charge number 	<div style="border: 1px solid black; padding: 5px;"> <b>1234567890</b> </div>
<b>DATA INPUT</b> <b>Personnel number</b> 20-digit, alphanumerical	 Input Personnel number 	<div style="border: 1px solid black; padding: 5px;"> <b>0987654321</b> </div>
<b>DATA INPUT</b> <b>Piece counter</b> 7-digit, numerical	1.2.3..  Input Piece Counter 	<div style="border: 1px solid black; padding: 5px;">                         piece counter  <b>1234567</b> </div>
<b>DATA INPUT</b> <b>Text</b> 20-digit, alphanumerical	 Input Text 	<div style="border: 1px solid black; padding: 5px;">                         text input  <b>HAWO Gerätebau GmbH</b> </div>
<b>DATA INPUT</b> <b>CE Information</b> 20-digit, alphanumerical	 →  Input CE information 	<div style="border: 1px solid black; padding: 5px;"> <b>CE -info</b>  <b>EN 980</b> </div>

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




### Data Activation/ Deactivation

<p><b>FUNCTION</b></p> <p>The print sequence is predefined, this means the individual information like</p> <ul style="list-style-type: none"> <li><b>Sterlization date</b></li> <li><b>Expiry date</b></li> <li><b>Charge number</b></li> <li><b>Personnel number</b></li> <li><b>Piece counter</b></li> <li><b>Text</b></li> <li><b>CE Symbol</b></li> </ul> <p>get always print in the same sequence</p>	<p>Print: Sterlization date, Expiry date, Personnel number</p> <div style="border: 1px solid black; padding: 10px; text-align: center;">  <p>17-02-2000 17-03-2000 Miller</p> </div> <p>Print: Sterlization date, Personnel number</p> <div style="border: 1px solid black; padding: 10px; text-align: center;">  <p>17-02-2000 Miller</p> </div>
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FUNCTION	KEYS	DISPLAY
<p><b>PRINT</b></p> <p><b>Sterlization date</b></p>	<p>Print                      Do not print</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  DAT. OK                 </div> <div style="text-align: center;">  DAT. DEL                 </div> </div>	<div style="border: 1px solid black; padding: 5px; text-align: center;">17-02-2000</div>
<p><b>PRINT</b></p> <p><b>Expiration date</b></p> <p>Selection of 3 different expiration dates</p>	<p>Print                      Do not print</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  EXP. ↓ 1,2,3 +                 </div> <div style="text-align: center;">OK</div> <div style="text-align: center;">  EXP. DEL                 </div> </div>	<div style="border: 1px solid black; padding: 5px; text-align: center;">17-03-2000                      1</div>
<p><b>PRINT</b></p> <p><b>Charge number</b></p>	<p>Print                      Do not print</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  LOT CHARGE OK                 </div> <div style="text-align: center;">  LOT CHARGE DEL                 </div> </div>	<div style="border: 1px solid black; padding: 5px; text-align: center;">1234567890</div>
<p><b>PRINT</b></p> <p><b>Personnel number</b></p>	<p>Print                      Do not print</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  PERS. OK                 </div> <div style="text-align: center;">  PERS. DEL                 </div> </div>	<div style="border: 1px solid black; padding: 5px; text-align: center;">0987654321</div>
<p><b>PRINT</b></p> <p><b>Piece counter</b></p>	<p>Print                      Do not print</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  1.2.3.. COUNT OK                 </div> <div style="text-align: center;">  1.2.3.. COUNT DEL                 </div> </div>	<div style="border: 1px solid black; padding: 5px; text-align: center;">piece counter 12345</div>
<p><b>PRINT</b></p> <p><b>Text</b></p>	<p>Print                      Do not print</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  - OK                 </div> <div style="text-align: center;">  - DEL                 </div> </div>	<div style="border: 1px solid black; padding: 5px; text-align: center;">text input HAWO Gerätebau GmbH</div>
<p><b>PRINT</b></p> <p><b>CE character</b></p>	<p>Print                      Do not print</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">C OK</div> <div style="text-align: center;">C DEL</div> </div>	<div style="border: 1px solid black; padding: 5px; text-align: center;">CE -info CE character</div>

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**Special functions**


FUNCTION	KEYS	DISPLAY
<b>PRINT</b> Printer OFF/ON		17-02-2000 14:30 180°C printer off
<b>DISPLAYS</b> Absolute part counter	 →  	absolute p. counter 1234567
<b>DISPLAYS</b> Operating time counter	 →  	operating time 000053 h 25 min

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**Operation**

**Sealing Operation**

- Adjust peeling edge width  
After loosening the arrest the peeling edge can be adjusted infinitely between 5 mm and 35 mm by moving the plate.
- Insert sterilization package  
The drive is switched on automatically.
- Removed sealed sterilization package and allow to cool briefly.

 **Check strength by tearing open seal.**  
If unsealed points are present increase the sealing temperature. If the paper discolors or the foil peels off the temperature is too high.



Determine suitable sealing temperature with sealing tests.




**Validation – „Seal Check“**

Checking of the sealing parameters: temperature, pressing –on pressure and sealing time by means of “SEAL CHECK”

This test should be performed before the daily working process and should be documented by filing the print out.

Additional, visual inspection of the sealing seam with HAWO Seal Check

Prior to the test, the device must be ready for operation and the temperature must have been reached.

<p><b>Device is ready for operation</b> Specified nominal temperature has been reached</p>	<p>Activate SEAL CHECK </p>	<p><b>seal check</b></p>				
<p>Introduce sterilisation packaging, width: 200 mmm</p>	<p> 21-12-1998 10:33 T: 180°C F: 100 N t: 2.8 s  filler</p>					
	Date	Time	Temperature	Pressing-on pressure	Sealing time	Name

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**Troubleshooting Chart**

Malfunction	Possible cause	Remedy
Machine cannot be switched on No data on display	Power connection Power cable not plugged in	Check power connection, if necessary connect to different socket. Replace power cable.
	Power cable defective	Replace power fuse
	Power fuse	! If fuse blows again always have machine checked.
	Control board Display board	Replace control board Replace display board
Machine does not heat up	Nominal temperature too low	Increase nominal temperature
	Temperature limitation active	Reset temperature limiter by pressing in pin ! If temperature limiter trips again always have machine checked
	Temperature sensor	Replace temperature sensor
	Heating cartridge	Check heating cartridges, replace if necessary
No transport	Control board	Replace control board
	Motor sensor	Replace light barrier
	Front flap not closed	Close front flap
	Front flap - sensor	Replace front flap sensor
	Transport belt Damaged No transport	Replace transport belt Check belt tension
Motor	Replace motor	
Control board	Replace control board	



**Your HAWO Service department is available**  
**Monday - Thursday from 7.30 -16.30 + Friday 7.30 - 15.30,**  
**under the telephone number xx49 (0)6261 9770-00 or (0)1726013399**

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**Troubleshooting Chart**

Malfunction	Possible cause	Remedy
Material feed not uniform or loud running noise	Transport belt guide  Transport belt Damaged No transport  Motor	Replace Teflon belt on guide die  Replace transport belt Check belt tension  Replace motor
Seal does not hold	Temperature too low  Pressure too low  Sealing die Distance between the sealing dies too great	Increase temperature  Readjust pressure of sealing roller or replace sealing roller  Set distance between the sealing dies to 0.5 mm
Sealing seam distorted	Pressure too high	Loosen upper guide die and readjust downward
Paper side of package discolored or side fold shrunk	Temperature too high	Reduce temperature
No imprint or imprint incomplete	Programming Start of print not correctly adjusted  Ink ribbon  Printer head  Control board	Reprogram start of print  Ink ribbon not correctly installed Replace ink ribbon  Replace print head  Replace control board
Imprint too weak	Ink ribbon  Print head  Paper hold-down	Replace ink ribbon.  Readjust print head.  Replace pressure spring for paper hold-down
Keyboard does not work	Keyboard  Display board Control board	Check keyboard connector for good contact. Replace keyboard  Replace display board. Replace control board

## Warranty

We assume a 12-month factory warranty for material and labor on all of our equipment corresponding to our general warranty terms for any proven defects.

The equipment or parts thereof will be repaired or replaced as required at no cost.

Please advise of warranty claims within 8 days.

The warranty does not apply to transport damage to improperly packed equipment shipped to the supplier or manufacturer as a result of guarantee claims.

When processing guarantee claims we reserve all rights to make technical modifications in the interest of technical progress and improvement of our equipment.

Recognition of a guarantee claim does not increase the total guarantee period.

Guarantee claims do not entitle the claimant to withhold payments in full or in part.

### **We assume no liability for damage resulting from the following causes:**

Unsuitable or improper use, incorrect installation or start-up, erroneous operation, incorrect or careless operation, natural wear, use of unsuitable operating agents, chemical, electro-chemical or electrical effects.

Moreover, any modifications or repair work accomplished improperly by the operator of the equipment or third parties without previous approval by HAWO are excluded from any type of guarantee. The same applies if genuine HAWO replacement parts are not used.

Parts replaced shall become the property of HAWO.

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### Maintenance Chart



As all technical equipment your equipment is also subject to technical wear. In order to ensure that your machine is always ready for use it should be serviced at least once annually by a trained technician.



Check



Replace



Adjust



Measure

Maintenance chart	Ink ribbon	Teflon strip for guide die	Teflon strip for sealing die	Pressure roller	Toothed belt	Sealing die interval	Sealing temperature between sealing die
At least every 3 months							
Depending on use, at least once annually							

### Parts Service



#### Simply order parts by fax:

- Please copy the following pages according to the parts required.  
Page 17: Parts required for maintenance and wear  
Page 18: Replacement parts

- Enter machine number.
- Enter machine model
- Enter name, address, fax number and order number.
- Mark items required
- Enter quantity required.
- Sign order.
- Fax order.

**No.:** 123456

**Type:** hm 850

Bitte diese Daten bei Ersatzteilbestellung angeben.  
Please state this data when ordering spares.  
Veuillez indiquer ces données en cas de commande  
des pièces de rechange.

**hawa** Gerätebau GmbH  
D-74847 Obrigheim  
Tel. 06261-62016  
Fax. 06261-62019  
Made in Germany

2 690 009



To:  
HAWO Gerätebau GmbH

From:

Fax 0049 (0) 6261 64752

Order Nr \_\_\_\_\_

Date: \_\_\_\_\_

Machine Model _____		Machine number _____	
<input checked="" type="checkbox"/>	Designation	Part No	qty
<input type="checkbox"/>	Ink ribbon	6.813.104	
<input type="checkbox"/>	Teflon strip for sealing die	6.105.285	
<input type="checkbox"/>	Teflon strip for guide rail 500 mm	6.105.139	
<input type="checkbox"/>	Pressure roller plastic	2.230.008	
<input type="checkbox"/>	Toothhead belt drive 375 mm	6.271.011	
<input type="checkbox"/>	Toothhead belt, material transport 480 mm	6.271.008	
<input type="checkbox"/>	Heating cartridge	6.536.032	
<input type="checkbox"/>	Upper sealing die complete	1.616.028	
<input type="checkbox"/>	Lower sealing die complete	1.616.029	
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			

Signature \_\_\_\_\_

To:  
HAWO Gerätebau GmbH

From:

Fax 0049 (0) 6261 64752

Order No \_\_\_\_\_

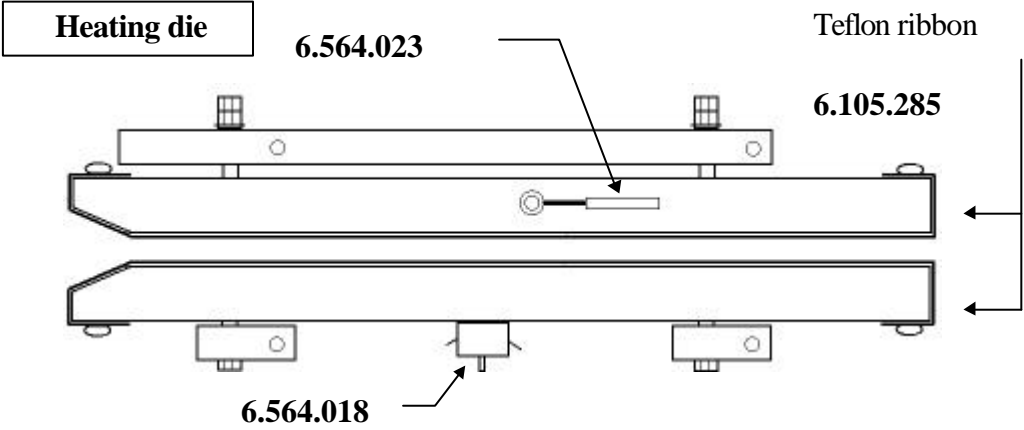
Date: \_\_\_\_\_

Machine model _____		machine number _____	
<input checked="" type="checkbox"/>	Designation	Part No	qty
<input type="checkbox"/>	Print head	1.653.002	
<input type="checkbox"/>	Control board ( Ma.-No.- ...< 972514 )	1.410.015	
<input type="checkbox"/>	Control board ( Ma.-No.- 972515 ...> )	1.410.022	
<input type="checkbox"/>	Display board	1.410.017	
<input type="checkbox"/>	DMS Modul	1.410.018	
<input type="checkbox"/>	Motordriver	1.410.020	
<input type="checkbox"/>	Light barrier	1.561.003	
<input type="checkbox"/>	Gear motor	1.212.011	
<input type="checkbox"/>	Motor ink ribbon	1.212.012	
<input type="checkbox"/>	Temperature limit switch	6.564.018	
<input type="checkbox"/>	Thermocouple	6.564.023	
<input type="checkbox"/>	Service Dongle	1.561.002	
<input type="checkbox"/>			
<input type="checkbox"/>			

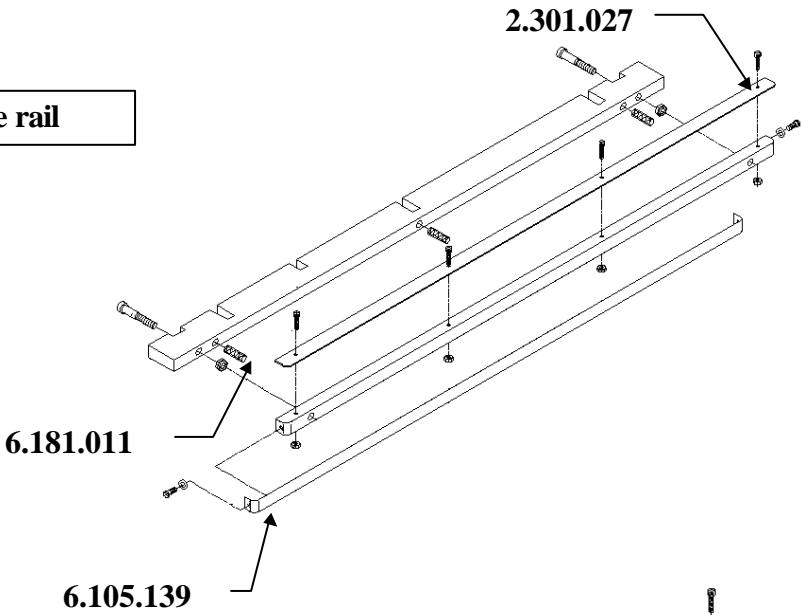
Signature \_\_\_\_\_

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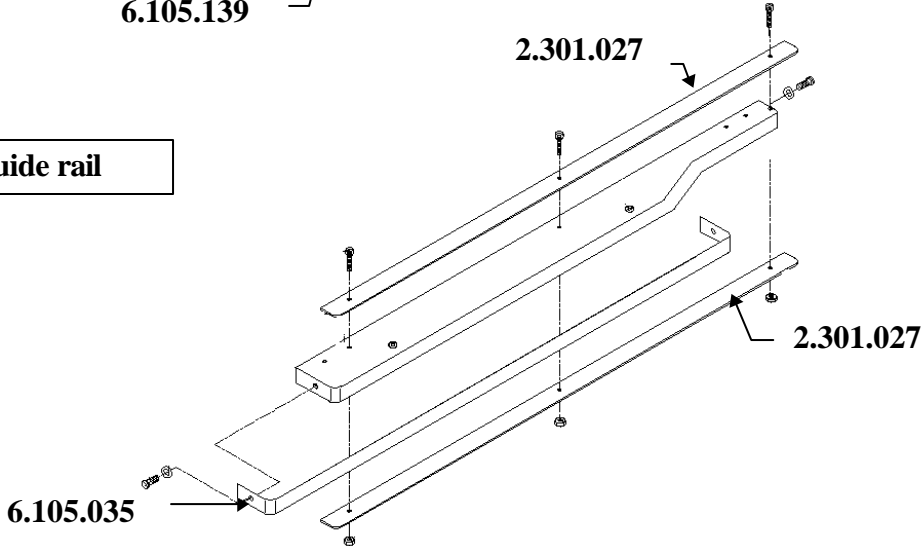
Part numbers



upper guide rail



lower guide rail



## Maintenance Information

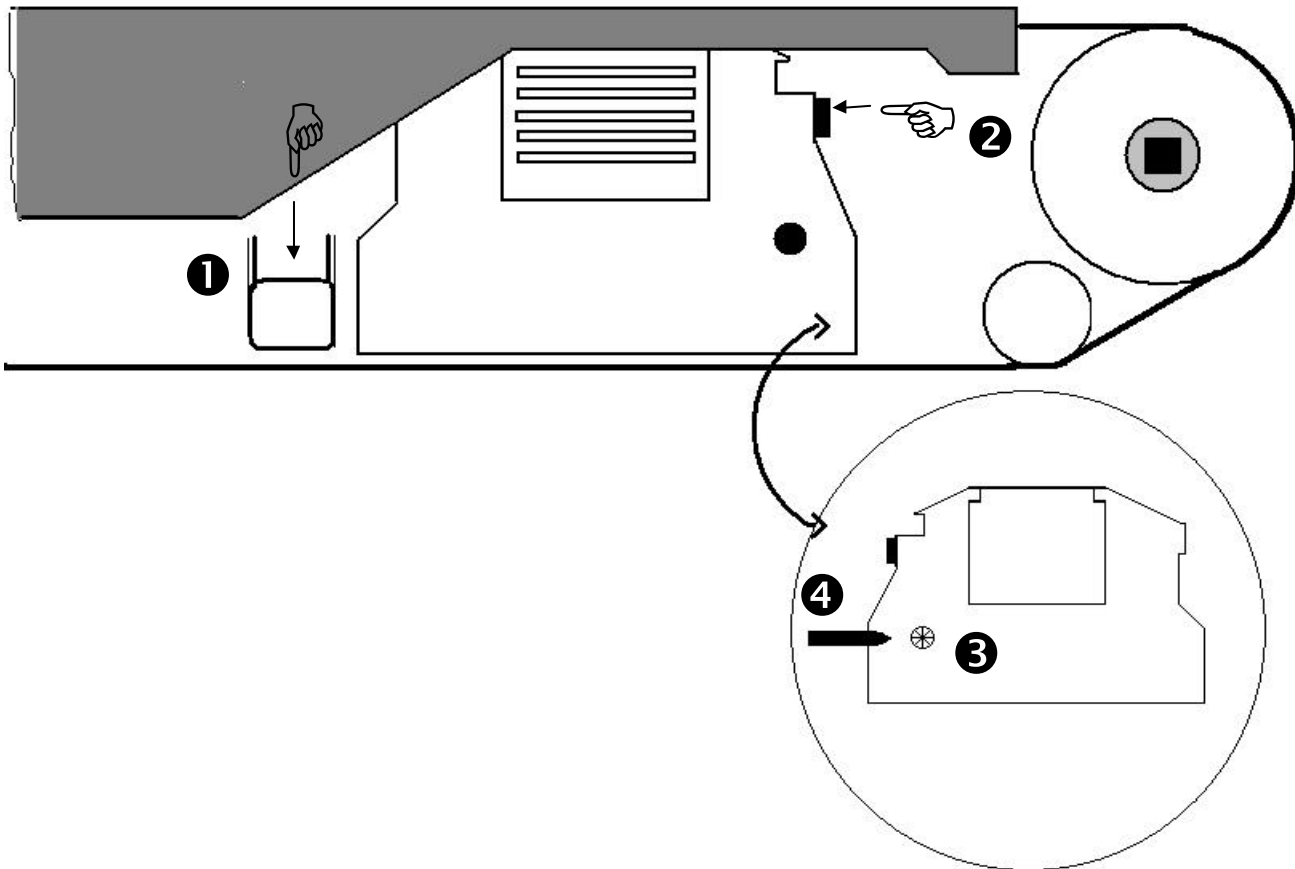
### Replacing ink ribbon

- Switch off machine
- Open front flap
- Press lever for ink ribbon holder **1** down with left hand.
- Press holder for ink ribbon cassette **2** to side and remove cassette.
- Insert new ink ribbon cassette.



Always ensure that the transport opening **3** in the cassette is attached to the transport shaft **4**.

- Press ink ribbon cassette toward rear until holder **2** catches.
- Close front flap
- Switch on machine and check printing function after reaching nominal temperature.



**Maintenance Information**

! Please use only **genuine HAWO** replacement parts.

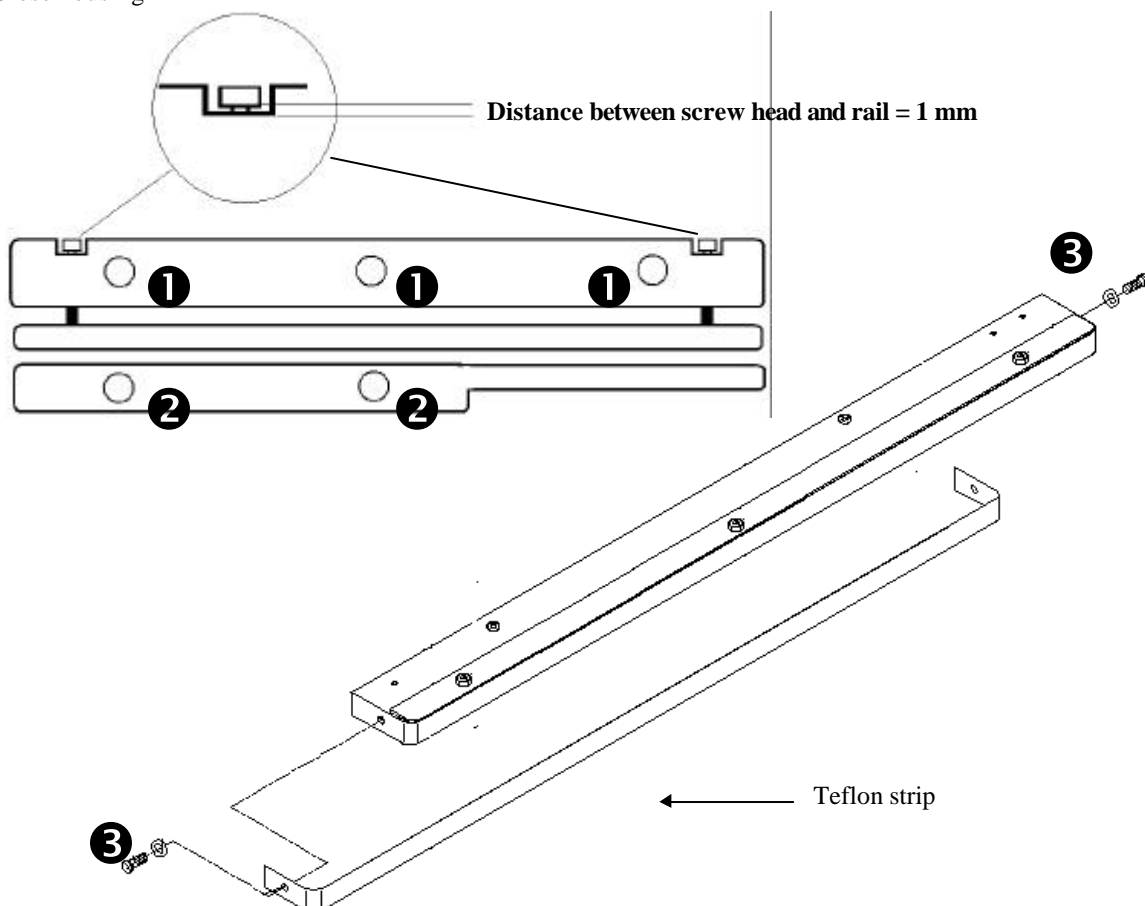
**Replacing Teflon strip on guide rail**

● **Switch off machine and DISCONNECT POWER PLUG !**

- Open housing
- Remove mounting screws **1** for upper guide rail and remove guide rail **or**
- Remove mounting screws **2** for lower guide rail and remove guide rail
- Remove mounting screws **3** and detach Teflon strip
- Pull backing foil off of new Teflon strip and glue new Teflon strip on straight and without wrinkles
- Fasten Teflon strip with screws **3**
- Install guide rail

☞ When installing the upper guide rail before fastening, push the die down so that the interval between the screw head and rail is 1 mm on both sides. This ensures the correct contact pressure for the guide rail.

- Close housing



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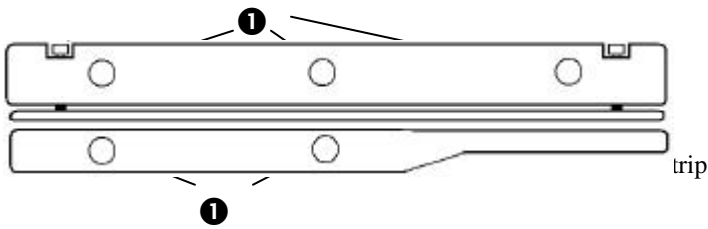
**Maintenance Information**

**!** Please use only genuine HAWO replacement parts.

**Replacing Teflon strip for upper and lower heating die**

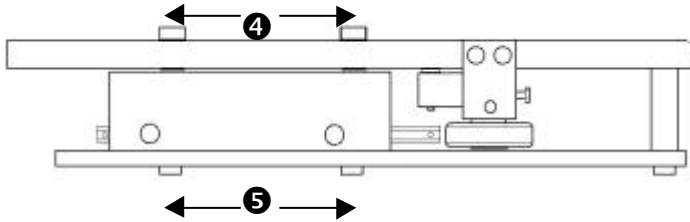
● **Switch off machine and DISCONNECT POWER PLUG !**

- Open housing
- Remove mounting screws **1** for upper guide rail and remove guide rail.

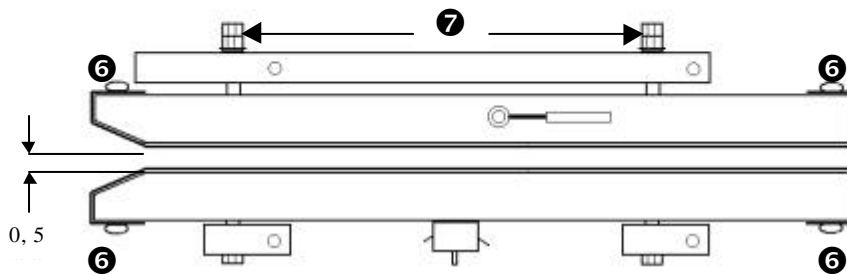


- Disconnect electrical connections for heating die
- Remove fastening screw **4** and at the bottom **5**
- Remove top or bottom heating die
- Unscrew mounting screw **6** and detach teflon

- Remove backing foil on new Teflon strip and glue new Teflon strip on straight and without wrinkles
- Fasten Teflon strip with screw **6**
- Install heating die
- Fasten fastening screws **4** + **5** of the heating die
- Reconnect electrical connections to heating die

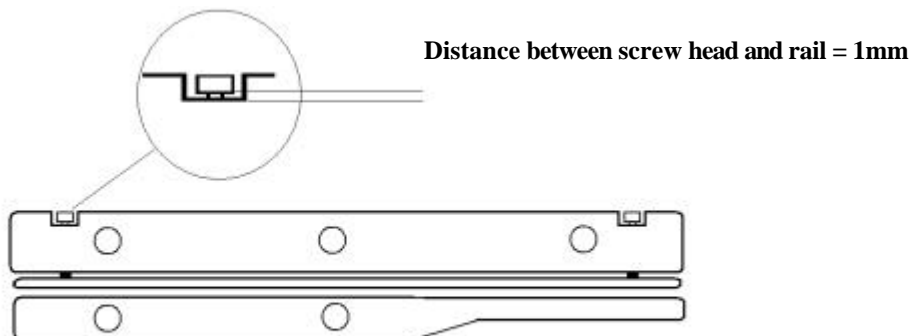


- Detach nuts **7**
- Set distance between the sealing dies to 0.5 mm
- Fasten nuts **7**



● Install guide rails.

☞ When installing the upper guide rail before fastening, push the die down so that the interval between the screw head and rail is 1mm on both sides. This ensures the correct contact pressure for the guide rail



● Close housing

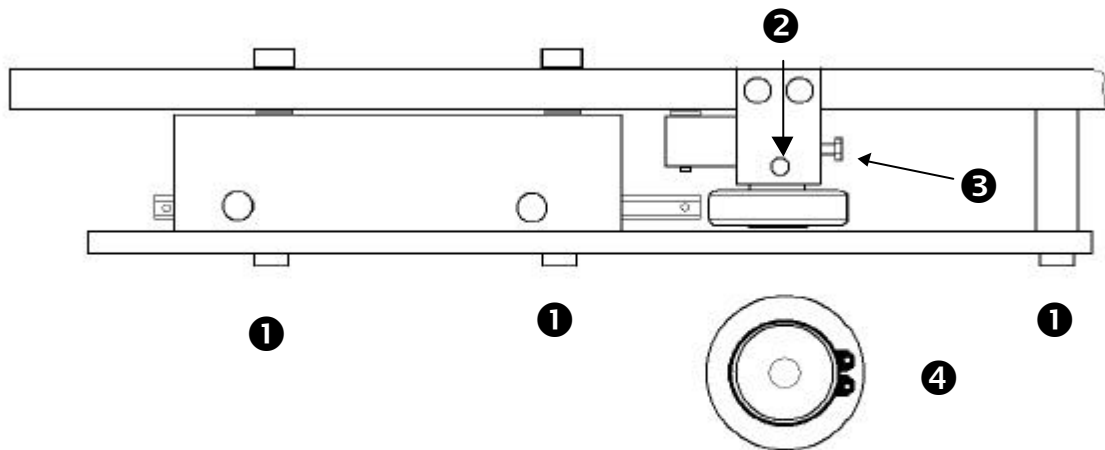
**Maintenance Information**

! Please use only **genuine HAWO** replacement parts.

**Replacing pressure roller**

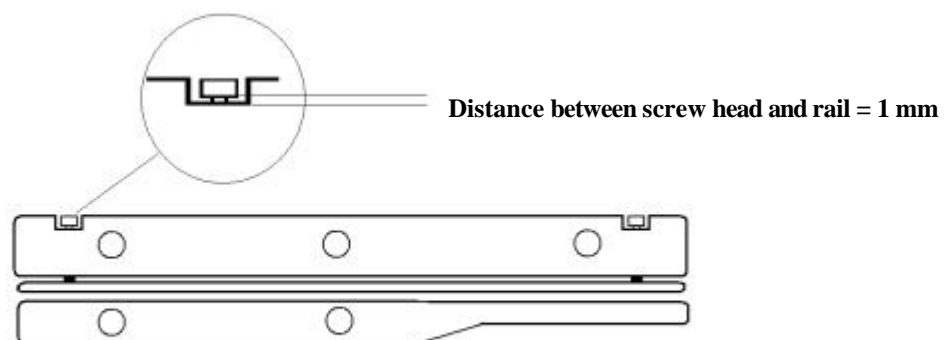
● **Switch off machine and DISCONNECT POWER PLUG !**

- Open housing
- Remove mounting screws **1** for upper guide rail and remove guide rail.
- Unscrew pressure adjustment screw **2** approx. 5 mm
- Loosen mounting screw **3** and pull pressure roller completely out of holder
- Detach snap ring **4** and remove pressure roller
- Install new pressure roller and fasten with snap ring **4**
- Position complete pressure roller in holder, center in relation to bottom roller and tighten mounting screw **3**
- Adjust contact pressure by screwing in adjustment screw **2** according to calibration instructions on page 24



● Install guide rail

☞ When installing the upper guide rail before fastening, push the die down so that the interval between the screw head and rail is 1 mm on both sides. This ensures the correct contact pressure for the guide rail.



● Close housing



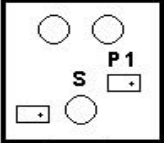











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## Calibration



Only possible with HAWO Service Dongle.

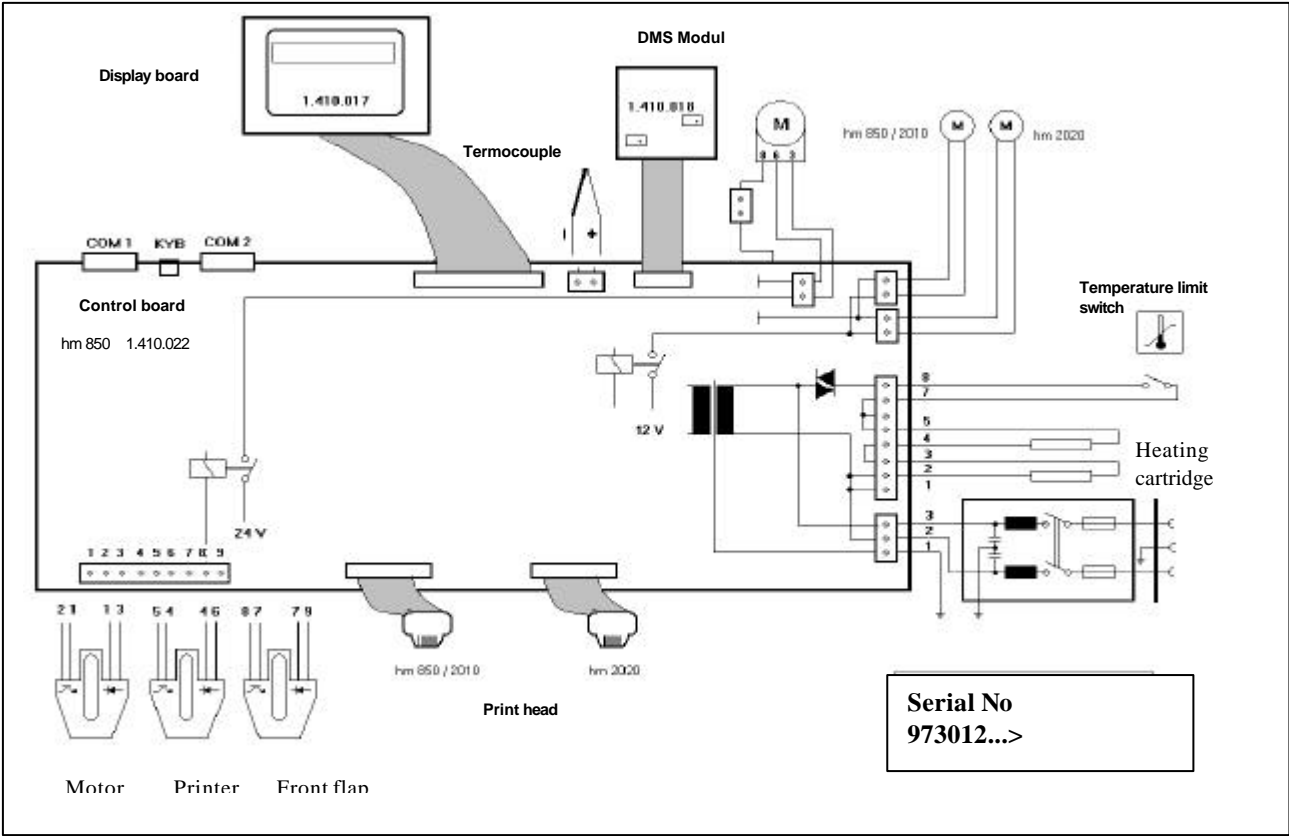
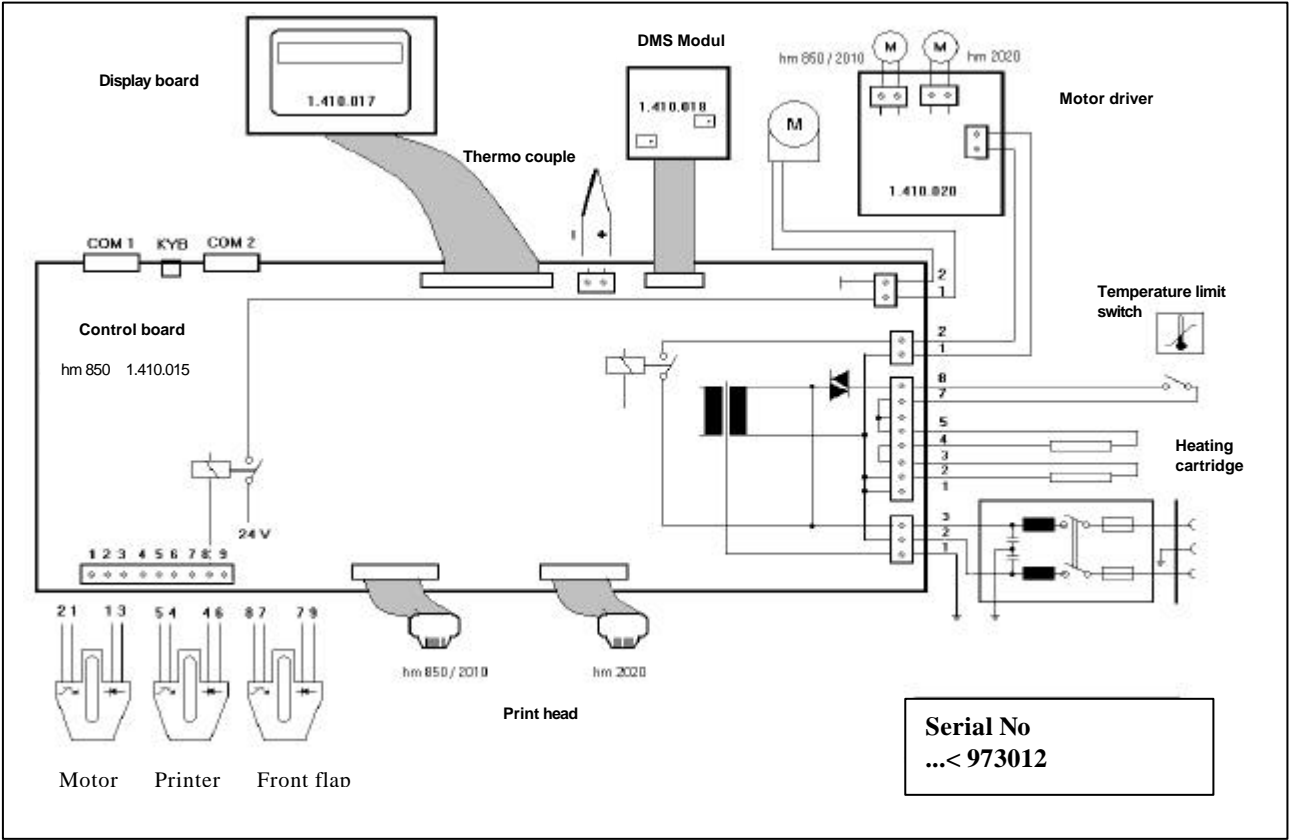
After replacing the temperature sensor or heating elements it is necessary to calibrate the temperature. After replacing the print head or "print start" light barrier it is necessary to calibrate the printer. After replacing the electronic unit it is necessary to perform both adjustment operations.

FUNCTION	KEYS	DISPLAY
Switch off machine Switch on machine Self-test runs for approx. 30 s	Connect service dongle to COM1	<b>Please wait</b>
<b>Select language</b> Language: German, English, French, Spanish, Italian	 Language selection 	<b>Set language</b> <b>GB</b>
<b>CALIBRATION</b> <b>Contact Pressure</b>  1. Prior to adjustment unscrew screw <b>S</b> totally  2. Adjust zero point to <b>5 N</b> using poti <b>P1</b>  3. Set pressing –on pressure to <b>100 N</b> using screw <b>S</b>	<b>CAUTION!</b> This calibration may <b>ONLY</b> be carried out when the <b>device is completely</b> <b>cold</b> Before calibration the device must have been switch  <b>ninutes</b> 	<b>Contact pressure</b> <b>Range</b> <span style="float: right;"><b>05 N</b></span>  <b>Contact pressure</b> <b>Range</b> <span style="float: right;"><b>100 N</b></span>
<b>SYSTEM CALIBRATION</b>	   <b>Temperature Printer Maintenance</b>	<b>system calibration</b> <b>next key</b>
<b>TEMPERATURE</b>  <b>Measure temperature between</b> <b>printing dies</b>	After reaching T=120 °C: Enter measured temperature 1 after waiting 120 sec.  Input   After reaching T=200 °C: Enter measured temperature 2 after waiting 120 sec.  Input 	Time 1    Temperature 1 <b>120</b> <b>120°C</b> <b>reading :</b> <span style="float: right;">°C</span>  Time 2    Temperature 2 <b>120</b> <b>200°C</b> <b>reading :</b> <span style="float: right;">°C</span>
<b>PRINTER</b> 1. Print test with specimen > 150 mm 2. Measure distance 1 and 2    Distance 1    Distance 2	Confirm test printout   Input distance 1   Input distance 2 	<b>printer calibration</b> <b>test print</b>  <b>printer calibration</b> <b>distance 1</b> <span style="float: right;"><b>mm</b></span>  <b>printer calibration</b> <b>distance 2</b> <span style="float: right;"><b>mm</b></span>
<b>MAINTENANCE</b> Date for next maintenance reminder	Input 	<b>MM-DD-YY</b> <b>17-02-98</b>

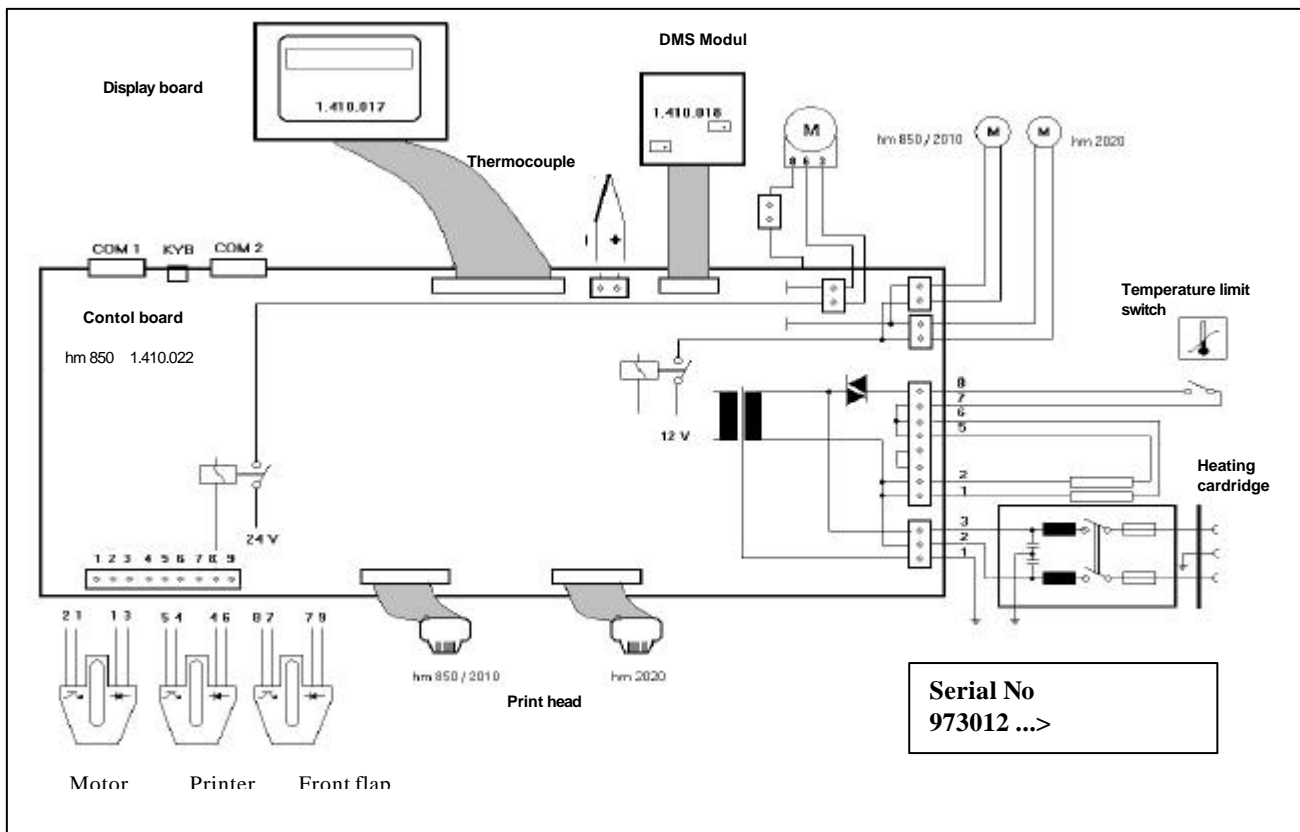
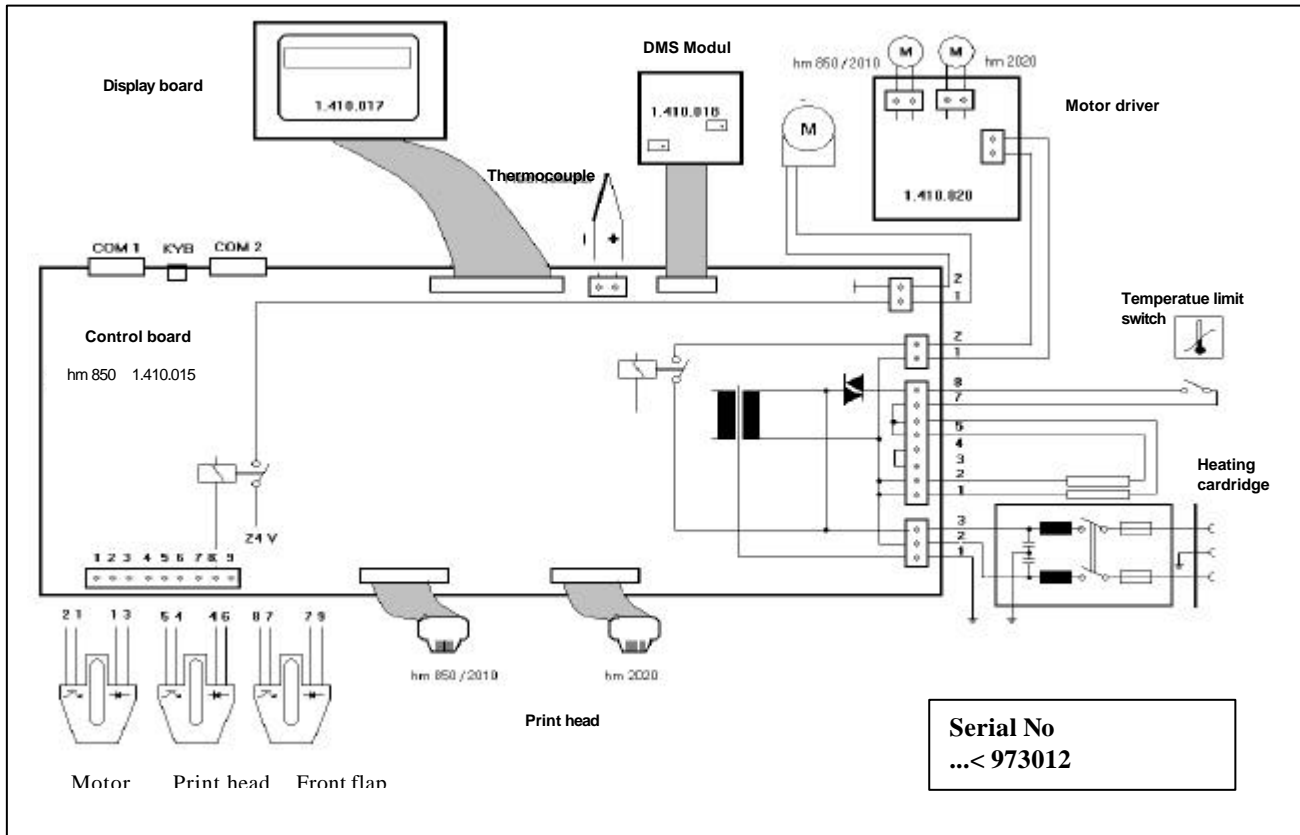


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Circuit and Wiring Diagram 230 V



Circuit and Wiring Diagram 115 V



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## Specifications

Power connection	[ V ]	230 / 115
Main fuse 230 V (115V)	[ A ]	2 T (5 M)
Power consumption	max [ W ]	500
Heat dissipation	[ kJ/s ]	0,1
Noise intensity	[ dB/ A ]	47
Ambient temperature	[ °C ]	5-25
Dimensions, length	[ mm ]	620
width		260
height		250
Weight	approx. [ kg ]	23
Processing speed	[ m / min ]	10
Sealing temperature	[ °C ]	80-220
Sealing temperature tolerance	[ + - % ]	2
Sealing seam	[ mm ]	12
Infinitely adjustable sealing edge	[ mm ]	5-30
Sealing seam length	[ mm ]	unlimited