

**ENGLISH**

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## Introduction

First we would like to thank you for purchasing the hm 2010 DC / hm 2020 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 circuit and diagram plans and machine specifications.</p>

## Intended Use

The hm 2010 / 2020 hawomed machine is intended for commercial and industrial applications and should be used only for the intended purpose.

The hm 2010 / 2020 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**

	<p>Power switch</p> <p>Power fuse</p> <p>Power connection</p> <p>Adjustable for the user manual</p>
	<p>Peel edge adjustment 5 - 35 mm</p>
	<p>Input and function keys</p>

**Sealing and Printing Operation Sequence**

1. After inserting the sterilisation package switch on transport.
2. The sterilisation 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 sterilisation 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.

## 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 off 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.



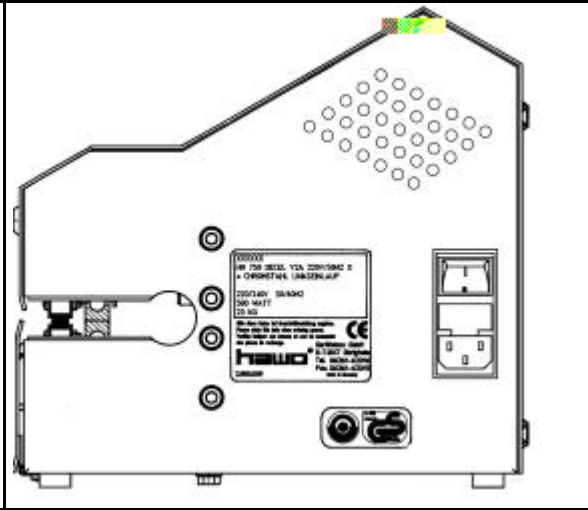
Always ensure that the operating power corresponds to the specifications on the machine rating plate.





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>		
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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 2010    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><b>MAINTENANCE</b></p>
<p>Display of date, time, actual temperature.</p>		<p><b>17-02-00    14:30    025°C</b> <b>Nominal temp    140°C</b></p>
<p>Display of actual temperature disappears upon reaching the set temperature <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


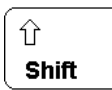




### Function Keys

 <b>F 1</b> Temperature	 <b>F 5</b> Personnel number	 <b>F 10</b> Catalogue
 <b>F 2</b> Sterilisation date	 <b>F 6</b> Piece counter	 <b>F1</b> <b>F11</b> Set-up unit
 <b>F 3</b> Expiration date	 <b>F 7</b> CE Symbol	 <b>F2</b> <b>F12</b> Set-up printer
 <b>F 4</b> Charge number	 <b>F 8</b> Absolute piece counter Operating time counter	 <b>Prt Sc</b> <b>Sys Rq</b> Printer ON/OFF

FUNCTION	KEYS	DISPLAY
<b>Cursor control</b> Press "Cursor right" key once	 Cursor to left    Cursor to right   <b>1x</b> 	<div style="border: 1px solid black; padding: 2px;"> <b>100°C</b>                      ▲ Cursor flashes at 1<sup>st</sup> digit                 </div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;"> <b>100°C</b>                      ▲ Cursor flashes at 2<sup>nd</sup> digit                 </div>
<b>Page up/down</b>	 	
<b>Return to previous menu point without activating entry</b>		
<b>Activate entry</b>		
<b>Selected point blank Piece counter to zero</b>		
<b>Space</b>		



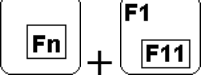

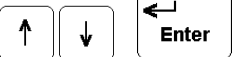
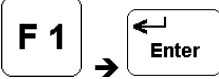

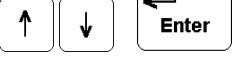
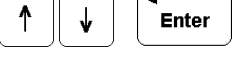



### Special Characters

Only as printable characters !

 Accent Grave	 <b>Shift</b>	→	 Accent Aigue	 <b>Fn</b>	→	 <b>1</b>  Circonflex
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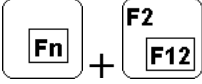


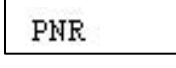



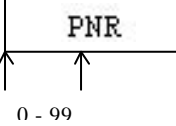

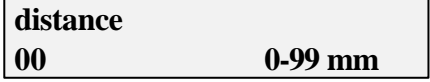
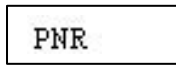



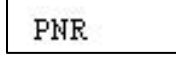
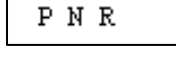


## Configuration of the device

FUNCTION	KEYS	DISPLAY
<b>CONTRAST SETTING</b>	 	<div style="border: 1px solid black; padding: 5px; text-align: center;">display contrast</div>
<b>CONFIGURATION MENU</b> LANGUAGE standard texts, TEXT, SYMBOL DATE FORMAT PRINTER internal/external	 	<div style="border: 1px solid black; padding: 5px; text-align: center;">system configuration</div>
<b>CONFIGURATION LANGUAGE Standard texts</b> D German GB English E Spanish F French I Italian X user define other text for	  Example: other text for „nominal temp.“    Enter „temperature“ 	<div style="border: 1px solid black; padding: 5px; text-align: center;">set language GB</div>  <div style="border: 1px solid black; padding: 5px; text-align: center;">X next key</div>  <div style="border: 1px solid black; padding: 5px; text-align: center;">nominal temp.</div> ▲ Cursor
<b>CONFIGURATION TEXT, SYMBOL</b>		<div style="border: 1px solid black; padding: 5px; text-align: center;">text / symbol</div>
<b>CONFIGURATION DATE FORMAT</b> 1 dd-mm-yyyy 2 mm-dd-yyyy 3 yyyy-mm 4 mm-yy 5 yyyy 6 yyyy-mm-dd	 1,2,3,4,5,6	<div style="border: 1px solid black; padding: 5px; text-align: center;">format date &amp; time DD-MM-YYYY 1</div>
<b>CONFIGURATION PRINTER internal/external</b>  <b>Intern:</b> Print of data on the pouches  <b>Extern:</b> Print of data on the lable of the external printer ( OPTION )		<div style="border: 1px solid black; padding: 5px; text-align: center;">printer set up printer intern / extern</div>



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## Configuration of the internal printer

FUNCTION	KEYS	DISPLAY
<b>CONFIGURATION MENU</b> PRINT OUT 180 ° DISTANCE CHARACTER WIDTH CHARACTER DISTANCE	 	
<b>CONFIGURATION</b> Print out 0°  180° 		
<b>SET-UP</b> Distance 0 - 99 mm 	Input Distance 	
<b>SET-UP</b> Character width 0 - 5  	Input Character width 	
<b>SET-UP</b> Character distance 0 - 5  	Input Character distance 	













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## DATA INPUT

FUNCTION	KEYS	DISPLAY
<b>TEMPERATURE</b> Nominal temperature input 1 150 - 200 °C 2 120 - 150 °C 3 80 - 120 °C	<b>F 1</b> ↓ ↵ Enter ↵ Enter 1,2,3 ↑ ↓ Input Nom. temperature	Nomial temp. 175°C <span style="float: right;">1</span>
<b>DATA INPUT</b> Date and time	<b>F 2</b> → ↵ Enter ↵ Enter Input Date and Time	17-02-00 8:57
<b>DATA INPUT</b> Expiration date Input 3 different expiration dates ex works: 1= Date + 1 Month 2= Date + 3 Month 3= Date + 6 Month	<b>F 3</b> ↓ ↵ Enter ↵ Enter 1,2,3 ↑ ↓ Input Expiration date	17-03-00 <span style="float: right;">1</span>
<b>DATA INPUT</b> Charge number 10-digit, alphanumerical	<b>F 4</b> → ↵ Enter ↵ Enter Input Charge number	A234567890
<b>DATA INPUT</b> Personnel number 20-digit, alphanumerical	<b>F 5</b> → ↵ Enter ↵ Enter Input Personnel number	A987654321
<b>DATA INPUT</b> Piece counter 7-digit, numerical	<b>F 6</b> → ↵ Enter ↵ Enter Input Piece counter	1234567
<b>DATA INPUT</b> CE information 20-digit, alphanumerical	<b>F 7</b> → ↵ Enter ↵ Enter Input CE information	CE - Info DIN 980

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## DATA INPUT

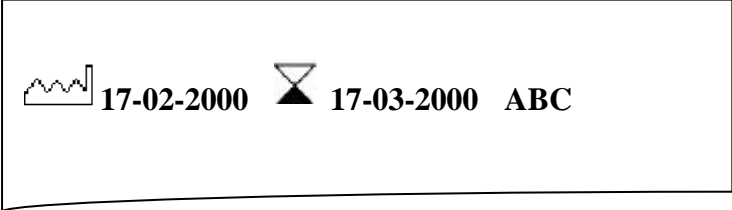
FUNCTION	KEYS	DISPLAY
<p><b>DATA INPUT</b></p> <p>Catalogue</p> <p>Select Catalogue input</p> <p>Select of catalogue page page 00 to page 99</p> <p>Entry text 20-digit, alphanumerical</p> <p>End of entry</p>	<p><b>F 10</b>         </p> <p style="text-align: center;">Select input</p> <p>e.g page 50</p> <p style="text-align: center;">     </p> <p>e.g text „ABC“</p> <p style="text-align: center;">      </p> <p>After confirmation of text automatic selection of the following page</p> <p style="text-align: center;"> </p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>catalog input</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>I text number 50 <span style="float: right;">0 - 99</span></p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>I text number <span style="float: right;">50</span> ABC_ _ _ _ _</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>I text number <span style="float: right;">51</span> _ _ _ _ _</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p>17-02-00    14:30    140°C</p> </div>












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## Catalogue output – printing sequence

### Printing sequence standard, internal printer

 Only with internal printer, device configuration **PRINTER INTERNAL** ( s. page 9 )

<p><b>FUNCTION</b></p> <p>The print sequence is predefined, this means the individual information like e.g. <b>Sterilization date, Expiry date, Catalogue page 50</b> get always print in the same sequence.</p> <p>Only <b>one</b> page of catalogue can get printed</p>	<p>Print with internal printer</p> <div style="border: 1px solid black; padding: 10px; text-align: center;">  </div>
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FUNCTION	KEYS	DISPLAY
<p><b>SELECTION</b> Catalogue output</p>	<p><b>F 10</b>         </p> <p>Selection output</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>catalog output</p> </div>
<p><b>SELECTION</b> Printline</p> <p> Only with hm 2020 Selection of printing sequence For printline 1 or 2</p>	<p>     </p> <p>Selection printline 1 or 2</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>select print line line 1</p> </div>
<p><b>SELECTION</b> Printing sequence standard</p> <p> Only with hm 2020 Line 1 standard / user selection Line 2 only user selection</p>	<p>     </p> <p>Select standard</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>print protocol standard</p> </div>

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## Catalogue output, printing sequence

Printing sequence standard, internal printer

### Data Activation

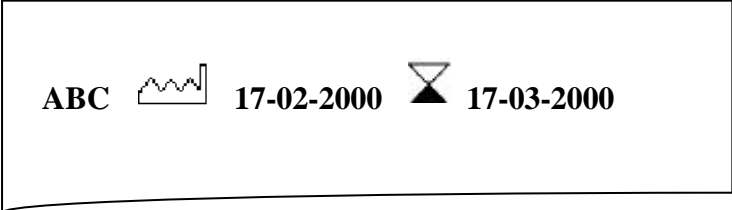
FUNCTION	KEYS	DISPLAY
<b>PRINT</b> Sterilization date	Print: <b>F 2</b> <b>Ins</b> Do not print: <b>F 2</b> <b>Del</b>	17-02-2000
<b>PRINT</b> Expiration date 1 2 3 Selection of three different expiration date	Print: <b>F 3</b> <b>Ins</b> Do not print: <b>F 3</b> <b>Del</b> 1,2,3 <b>↑</b> <b>↓</b>	17-03-2000 <b>1</b>
<b>PRINT</b> Charge number	Print: <b>F 4</b> <b>Ins</b> Do not print: <b>F 4</b> <b>Del</b>	1234567890
<b>PRINT</b> Personnel number	Print: <b>F 5</b> <b>Ins</b> Do not print: <b>F 5</b> <b>Del</b>	0987654321
<b>PRINT</b> Piece counter	Print: <b>F 6</b> <b>Ins</b> Do not print: <b>F 6</b> <b>Del</b>	1234567
<b>PRINT</b> CE character	Print: <b>F 7</b> <b>Ins</b> Do not print: <b>F 7</b> <b>Del</b>	CE - info
<b>PRINT</b> Page of catalogue Select the page of catalogue which has to be print	Select of page Entry 00 - 99 e.g page 50 <b>5</b> <b>0</b> <b>←</b> <b>Enter</b>	O text number 50
<b>PRINT</b> Page of catalogue The page of catalogue which has to be print insert or delete	Insert: <b>Ins</b> Delete: <b>Del</b>	Text insert / delete 50

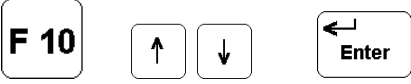







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**Catalogue output, printing sequence**

**Printing sequence user selection, internal printer**

 Only with internal printer, device configuration printer internal ( s. page 9 )

<p><b>FUNCTION</b></p> <p>The printing sequence is not predefined this means the individual information like e.g <b>Catalogue page 50</b> <b>Sterilization date</b> <b>Expiry date</b></p> <p>could be print in any sequence</p> <p><u>More than one page</u> of catalogue can be printed</p>	
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FUNCTION	KEYS	DISPLAY
<p><b>SELECTION</b> Catalogue output</p>	 <p>Selection output</p>	
<p><b>SELECTION</b> Printline</p> <p> Only with hm 2020</p> <p>Selection of printing sequence for printline 1 or 2</p>	 <p>Selection printline 1 or 2</p>	
<p><b>SELECTION</b> Printing sequence user selection</p> <p> Only with hm 2020</p> <p>Line 1 standard / user selection Line 2 only user selection</p>	 <p>Select user selection</p>	

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**Catalogue output, printing sequence**  
**Printing sequence user selection, internal printer**

**Data Activation**

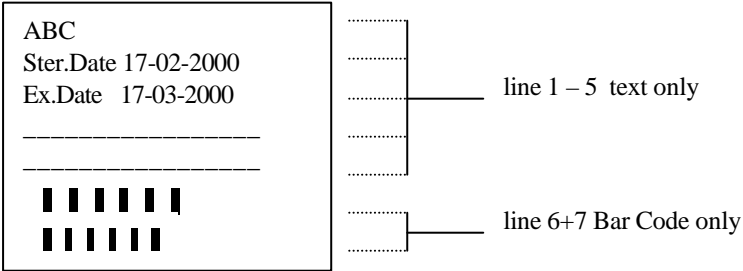
<p><b>PRINTING SEQUENCE</b> without Bar Code</p> <p>e.g Catalogue page 50 Sterilisation date, <b>Expiration date as</b> <b>Text</b></p>	<p>5 0 → F2 → F3</p> <p style="text-align: right;">← Enter</p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">                 50 F2 F3 -_ -_             </div> <div style="border: 1px solid black; padding: 5px;">                 -_ -_ -_ -_ -_             </div>
<p><b>PRINTING SEQUENCE</b> without Bar Code</p> <p>e.g Catalogue page 50 Sterilisation date, <b>Expiration date as</b> <b>Bar code</b></p>	<p>5 0 → F2 → F3 B</p> <p>Having repeated it a few times of key B: Expiration date as Bar Code</p> <p style="text-align: right;">← Enter</p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">                 50 F2 BF3 -_ -_             </div> <div style="border: 1px solid black; padding: 5px;">                 -_ -_ -_ -_ -_             </div>





hm 2010 hm 2020	<h1>Basic Functions</h1>	<h1>4</h1>
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## Catalogue output, printing sequence











### Printing sequence user selection, Printer external

 Only with external printer, device configuration PRINTER EXTRNAL ( s. page 8 )

<p><b>FUNCTION</b></p> <p>The printing sequence is not predefined this means the individual information like e.g <b>Catalogue page 50</b> <b>Sterilization date</b> <b>Expiry date</b> could be print in any sequence</p> <p><u>More than one page of catalogue</u> can be printed</p>	
--	--

FUNCTION	KEY	DISPLAY
<p><b>SELECTION</b> Catalogue output</p>	<p><b>F 10</b>            </p> <p style="text-align: center;">Selection output</p>	<p style="text-align: center; border: 1px solid black; padding: 5px;">catalog output</p>
<p><b>SELECTION</b> Printing sequence</p> <p>Only user selection possible</p>	<p style="text-align: right;"></p>	<p style="text-align: center; border: 1px solid black; padding: 5px;">print protocol user selection</p>






## Data Aktivation

<p><b>PRINTING SEQUENCE</b> e.g</p> <p><b>Text for</b> Catalogue page 50 Sterilisation date, Expiration date</p> <p><b>Bar Code for</b> Piece counter</p>	<p>     </p> <p>      </p>	<p style="border: 1px solid black; padding: 5px;">                 50 F2 F3 -_- -_-                  BF6_ B_ -_- -_- -_-             </p>
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hm 2010 hm 2020	<h1>Basic Functions</h1>	<h1>4</h1>
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## Special functions

FUNKTION	TASTEN	ANZEIGE
<b>PRINT</b> Printer off / on		<div style="border: 1px solid black; padding: 2px;">                     17-02-00 14:30 180°C                      printer off                 </div>
<b>DISPLAY</b> Absolut part counter Operating time counter	  	<div style="border: 1px solid black; padding: 2px;">                     absolute p. counter                      1234567                 </div> <div style="border: 1px solid black; padding: 2px; margin-top: 2px;">                     operating time                      000053 h 25 min                 </div>
<b>PRINT</b> 1x lable ! with external printer only		

hm 2010 hm 2020	<b>Basic Functions</b>	<b>4</b>
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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.


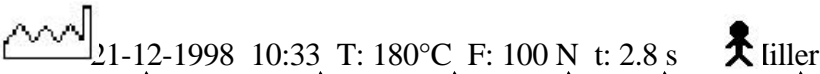
## Validation – „Seal Check“

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.

<b>Device is ready for operation</b> Specified nominal temperature has been reached	Activate SEAL CHECK 	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <b>seal check</b> </div>				
Introduce sterilisation packaging, width: 200 mmm						
	↑ Date	↑ Time	↑ Temperature	↑ Pressing-on pressure	↑ Sealing time	↑ Name

<p>hm 2010 hm 2020</p>	<p><b>Troubleshooting and Maintenance</b></p>	<p><b>5</b></p>
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**Troubleshooting Chart**

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



**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**

hm 2010 hm 2020	<b>Troubleshooting and Maintenance</b>	<b>5</b>
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## Troubleshooting Chart

Malfunction	Possible cause	Remedy
Material feed not uniform or loud running noise	Transport belt guide	Replace Teflon belt on guide die
	Transport belt Damaged No transport  Motor	Replace transport belt Check belt tension  Replace motor
Seal does not hold	Temperature too low	Increase temperature
	Pressure too low  Sealing die Distance between the sealing dies too great	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	Reprogram start of print
	Ink ribbon	Ink ribbon not correctly installed Replace ink ribbon
	Printer head	Replace print head
	Control board	Replace control board
Imprint too weak	Ink ribbon	Replace ink ribbon.
	Print head	Readjust print head.
	Paper hold-down	Replace pressure spring for paper hold-down
Keyboard does not work	Keyboard	Check keyboard connector for good contact. Replace keyboard
	Display board Control board	Replace display board. Replace control board

	<b>Troubleshooting and Maintenance</b>	<b>5</b>
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## **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.

hm 850	<b>Troubleshooting and Maintenance</b>	<b>5</b>
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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 23: Parts required for maintenance and wear  
Page 24: 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 2010

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**

Geratebau GmbH  
D-74847 Orlingheim  
Tel. 06261-62016  
Fax. 06261-82015  
MADE IN GERMANY

2 600 004

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"/>	<b>hm 2010</b> Teflon strip for guide rail	6.105.139	
<input type="checkbox"/>	<b>hm 2020</b> Teflon strip for guide rail	6.105.137	
<input type="checkbox"/>	Pressure roller plastic	2.230.008	
<input type="checkbox"/>	<b>hm 2010</b> Toothhead belt drive	6.271.011	
<input type="checkbox"/>	<b>hm 2020</b> Toothhead belt drive	6.271.012	
<input type="checkbox"/>	<b>hm 2010</b> Toothhead belt, material transport	6.271.008	
<input type="checkbox"/>	<b>hm 2020</b> Toothhead belt, material transport	6.271.006	
<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"/>			

Signature \_\_\_\_\_

To:  
HAWO Gerätebau GmbH

From:

Fax 0049 (0) 6261 64752

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

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

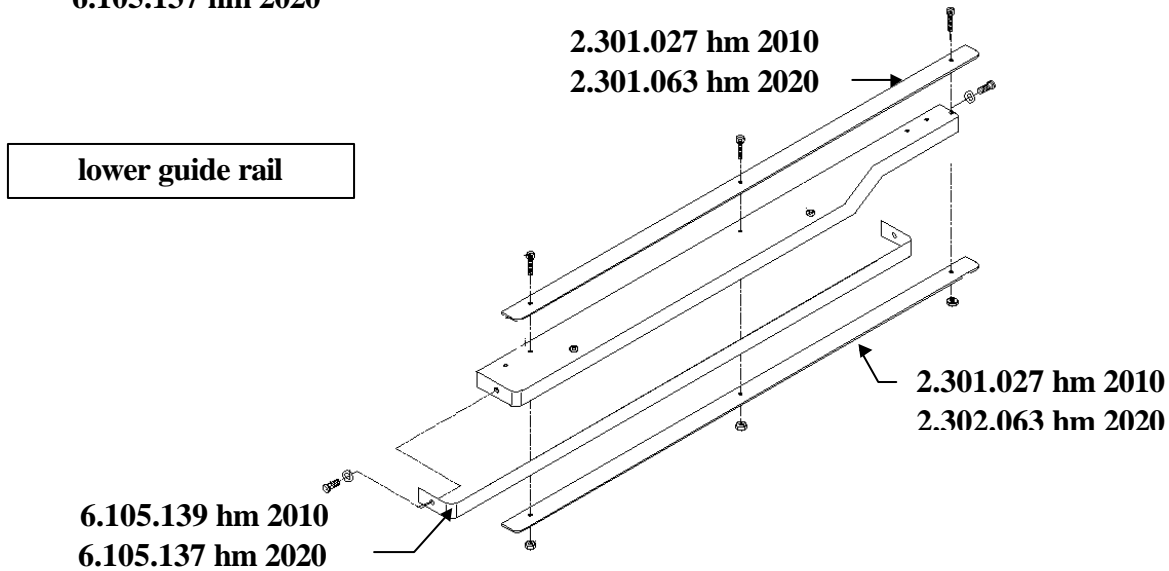
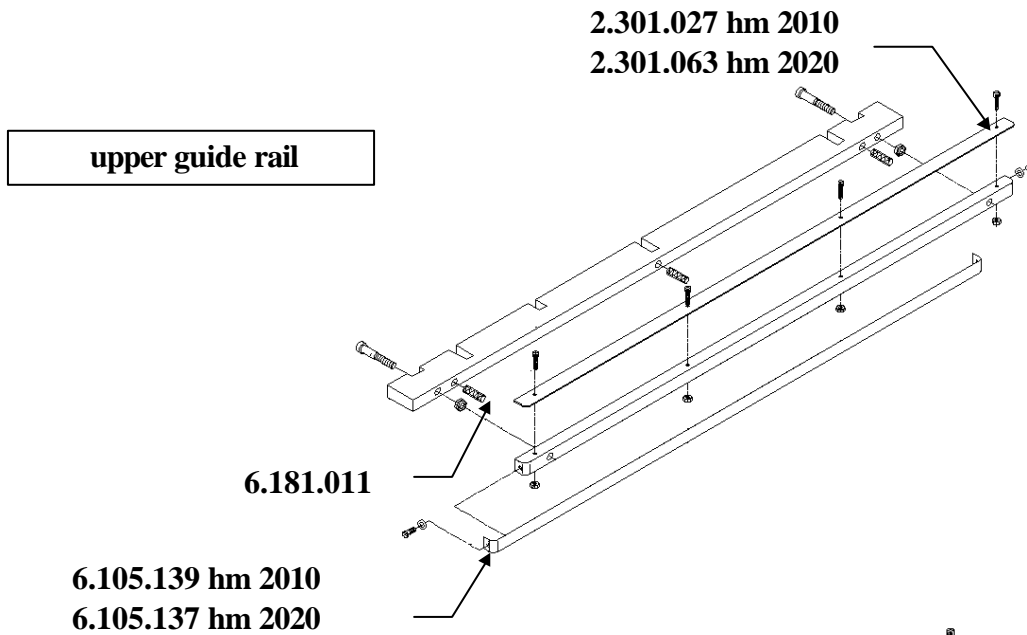
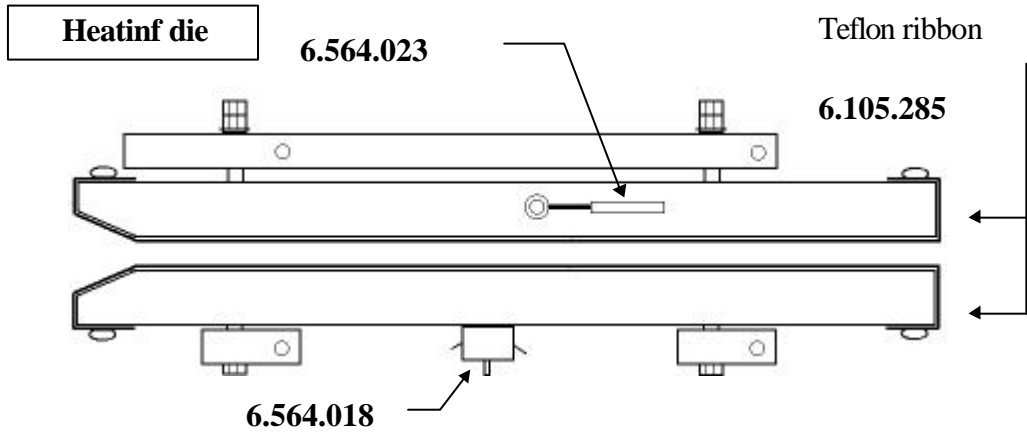
Machine model _____		machine number _____	
<input checked="" type="checkbox"/>	Designation	Part No	qty
<input type="checkbox"/>	Print head	1.653.002	
<input type="checkbox"/>	Control board <b>hm 2010</b> ( Ma.-No.- ...< 972525 )	1.410.019	
<input type="checkbox"/>	Control board <b>hm 2010</b> ( Ma.-No.- 972526...> )	1.410.023	
<input type="checkbox"/>	Control board <b>hm 2020</b> ( Ma.-No.- ...< 972534 )	1.410.016	
<input type="checkbox"/>	Control board <b>hm 2020</b> ( Ma.-No.- 972535 ...> )	1.410.024	
<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	

Signature \_\_\_\_\_



hm 2010 hm 2020	<b>Troubleshooting and Maintenance</b>	<b>5</b>
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**Part numbers**



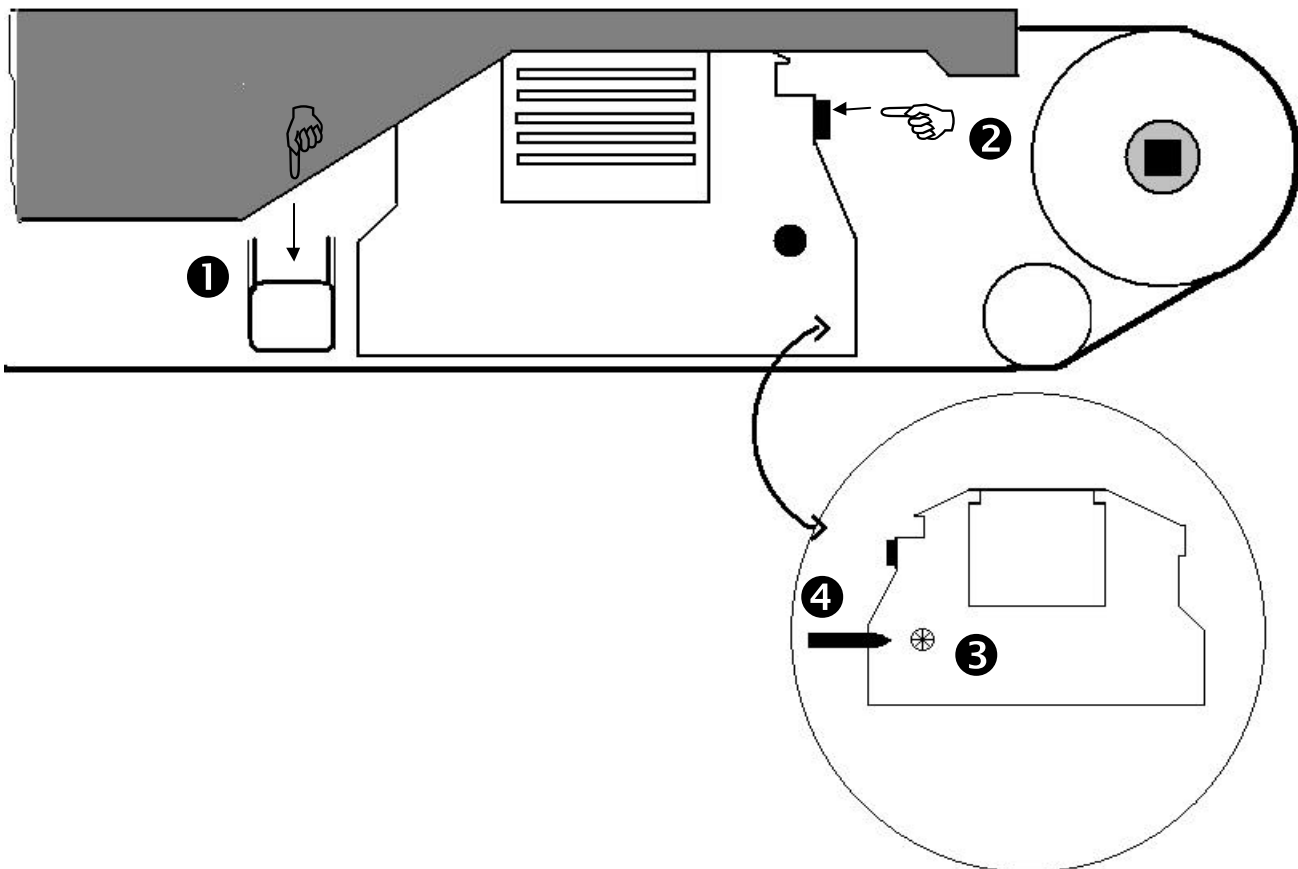
**Maintenance Information****Replacing ink ribbon**

- 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.**

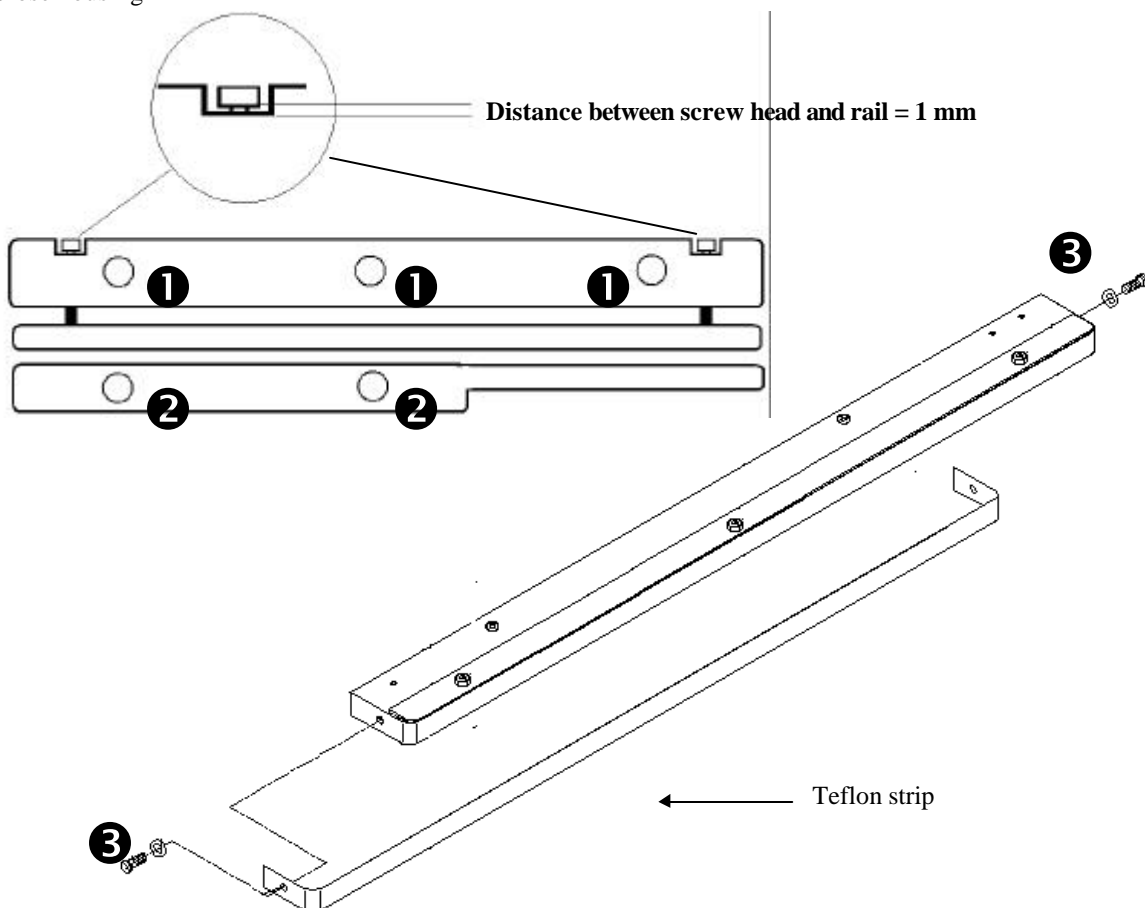
**Replacing Teflon strip on guide rail**

● **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



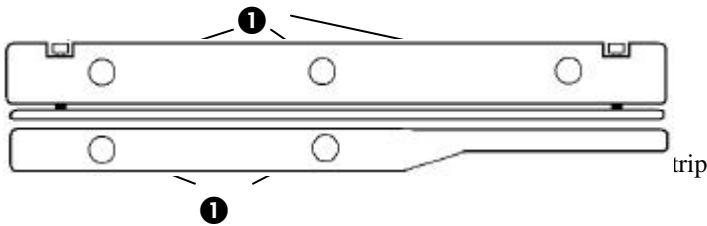
**Maintenance Information**

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

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

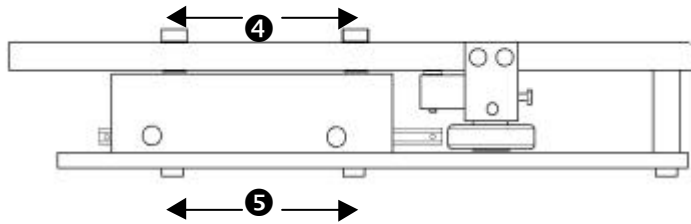
● **Switch off machine and DISCONNECT POWER PLUG !**

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

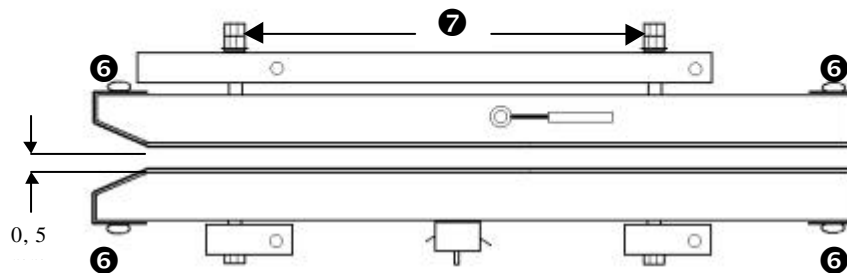


- Disconnect electrical connections for heating die
- Remove fastening screw **4** and at the bottom **5**
- Remove top or bottom heating die
- Unscrew mounting screw **6** and detach teflon

- 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

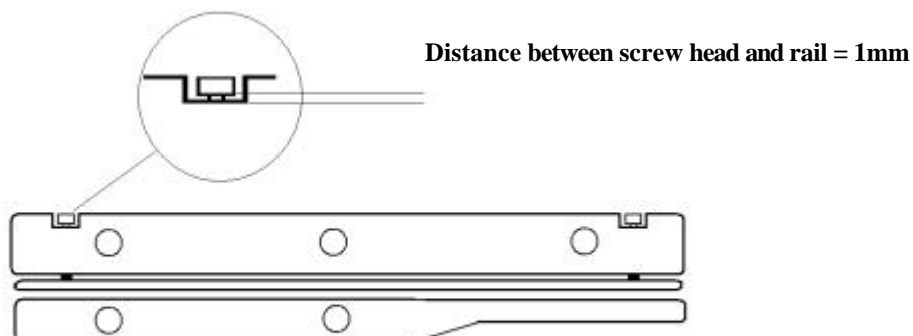


- Detach nuts **7**
- Set distance between the sealing dies to 0.5 mm
- Fasten nuts **7**



- 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

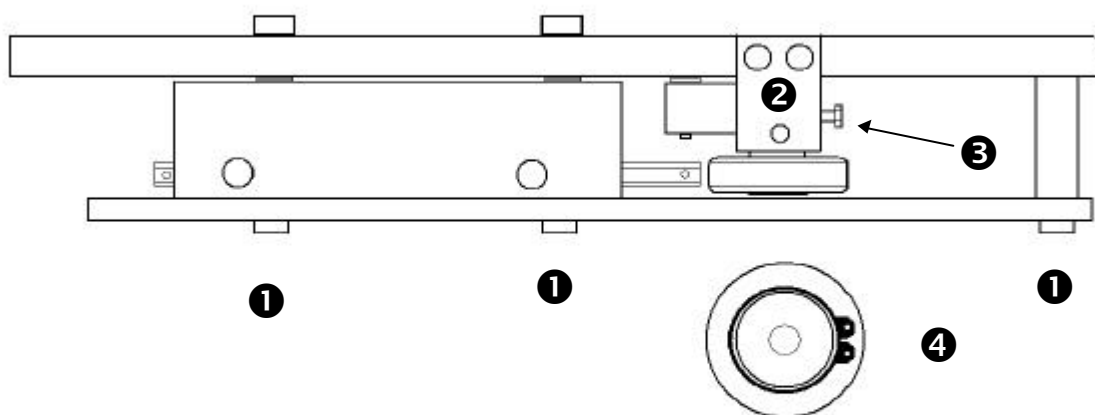
**Maintenance Information**

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

**Replacing pressure roller**

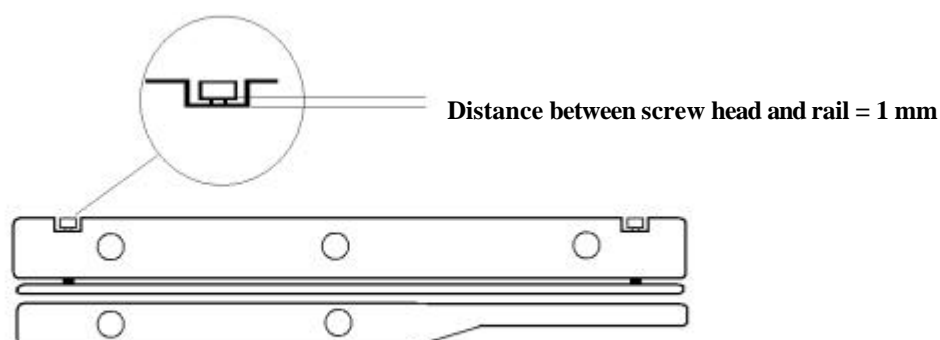
● **Switch off machine and DISCONNECT POWER PLUG !**

- 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 30



● 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

hm 2010 hm 2020	<h1>Troubleshooting and Maintenance</h1>	<h1>5</h1>
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## Calibration



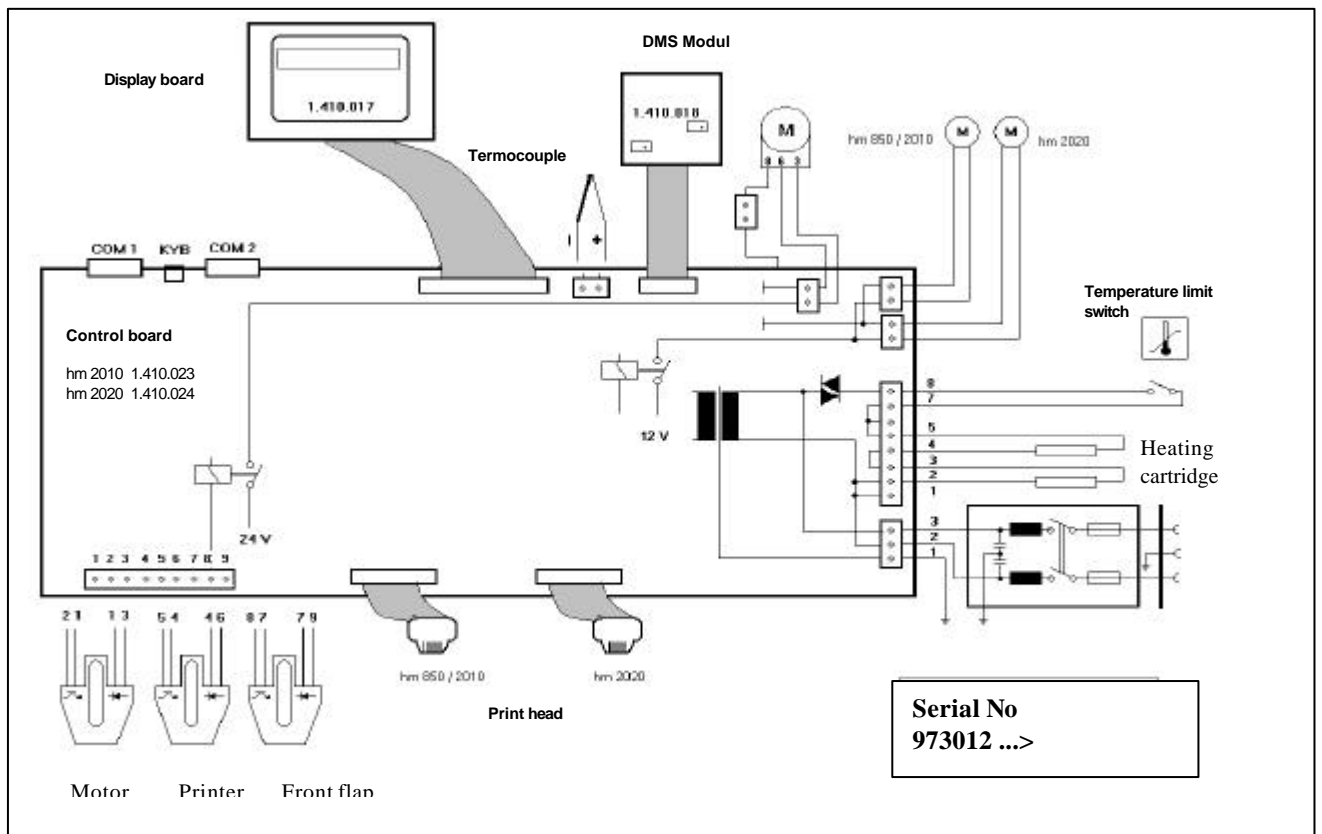
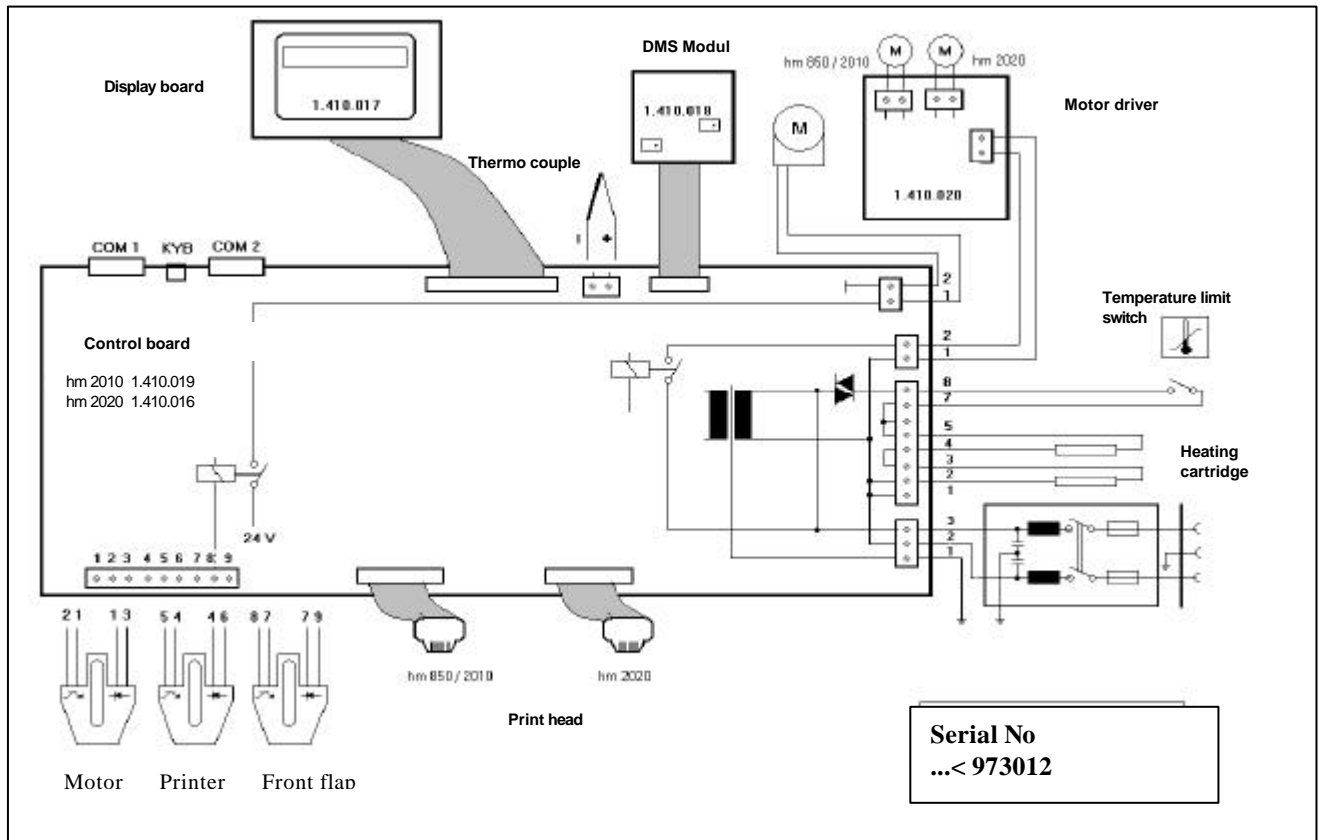
Only possible with HAWO Service Dongle.

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 unsrew srew <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 srew <b>S</b>	CAUTION! This calibration may <b>ONLY</b> be carried out when the <b>device is completely cold</b> Before calibration the device must have been switched on for at least <b>5 minutes</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 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> °C  Time 2    Temperature 2 <b>120</b> <b>200°C</b>  <b>reading :</b> °C
<b>PRINTER</b> 1. Print test with specimen > 150 mm 2. Measure distance 1 and 2    Distance 1            Distance 2 <b>Distance of print head</b> <b>Only hm 2020</b> 1. Measure distance in between head 1+2 2. Enter distance	  Input distance 1  Input distance 2   Enter distance 100 - 150 mm	<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>Prnt.head distance</b> <b>1000</b> <span style="float: right;"><b>x0.1mm</b></span>
<b>MAINTENANCE</b> Date for next maintenance reminder	Input	<b>MM-DD-YY</b> <b>17-02-98</b>

hm 2010 hm 2020	<b>Technical Data</b>	<b>6</b>
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**Circuit and Wiring Diagram 230 V**

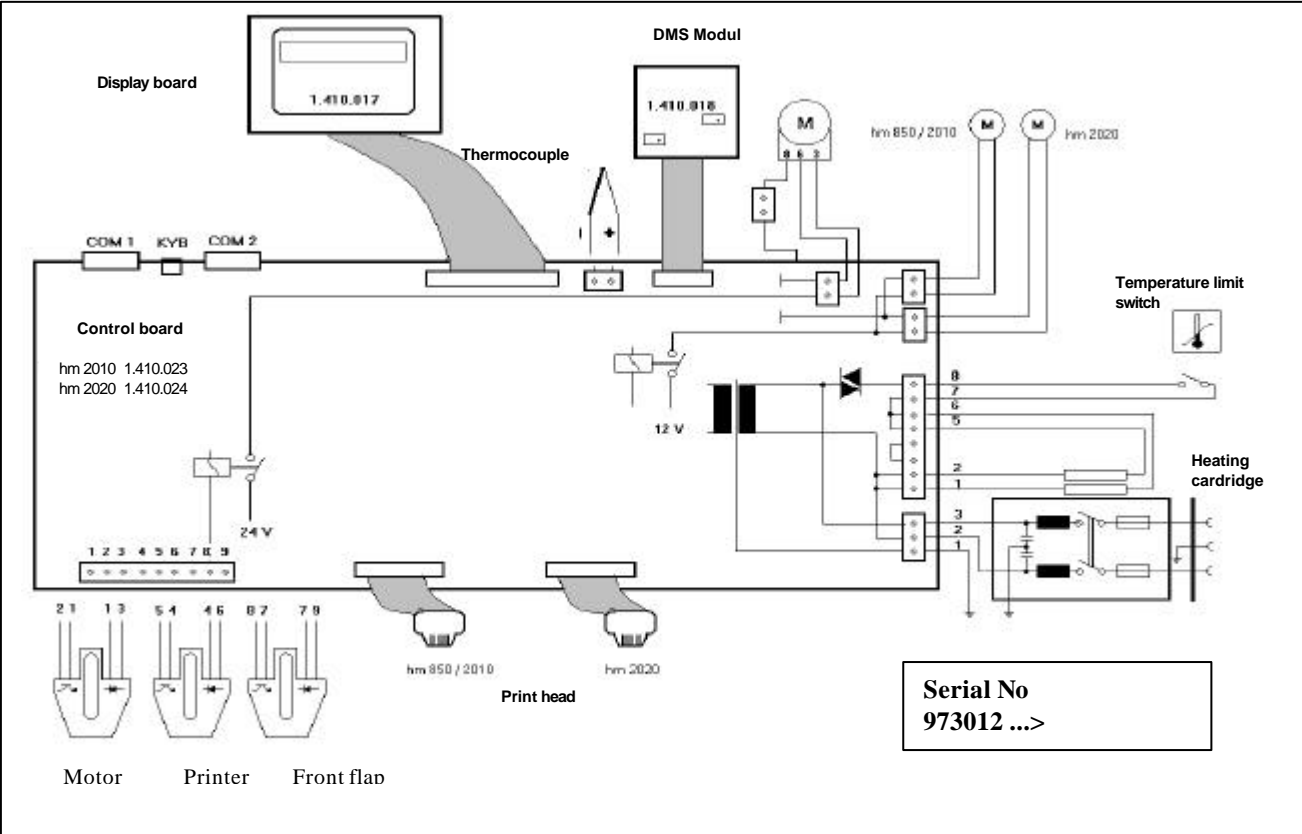
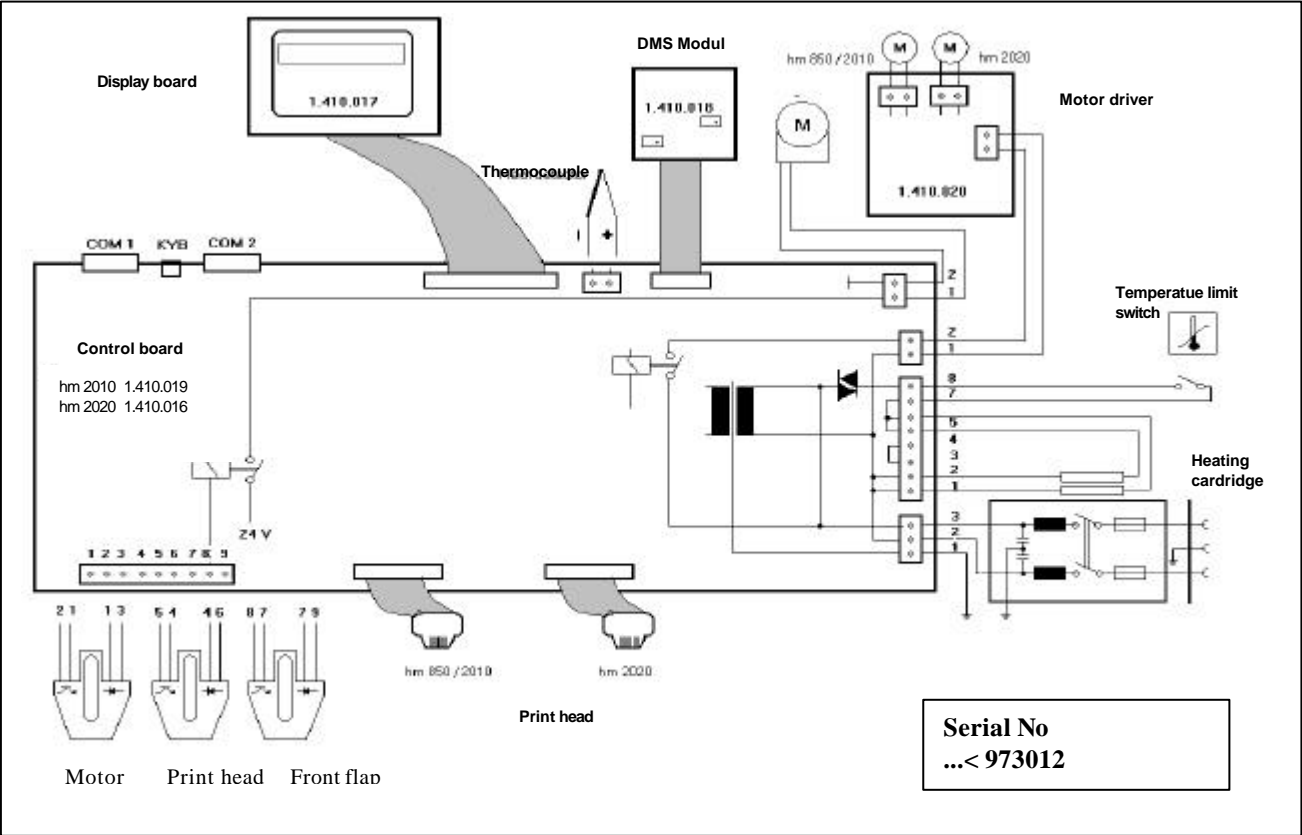


hm 2010  
hm 2020

Technical Data

6

Circuit and Wiring Diagram 115 V





hm 2010 hm 2020	<b>Technical Data</b>	<b>6</b>
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## Specifications

<b>Power connection</b>	[ V ]	<b>230 / 115</b>
<b>Main fuse 230 V (115V)</b>	[ A ]	<b>2 T ( 5 M )</b>
<b>Power consumption</b>	max [ W ]	<b>500</b>
<b>Heat dissipation</b>	[ kJ/s ]	<b>0,1</b>
<b>Noise intensity</b>	[ dB/ A ]	<b>47</b>
<b>Ambient temperature</b>	[ °C ]	<b>5-25</b>
<b>Dimensions, length</b>	[ mm ]	<b>620 hm 2010 740 hm 2020</b>
<b>width</b>		<b>260</b>
<b>height</b>		<b>250</b>
<b>Weight</b>	approx. [ kg ]	<b>23 hm 2010 26 hm 2020</b>
<b>Processing speed</b>	[ m / min ]	<b>10</b>
<b>Sealing temperature</b>	[ °C ]	<b>80-220</b>
<b>Sealing temperature tolerance</b>	[ + - % ]	<b>2</b>
<b>Sealing seam</b>	[ mm ]	<b>12</b>
<b>Infinitely adjustable sealing edge</b>	[ mm ]	<b>5-30</b>
<b>Sealing seam length</b>	[ mm ]	<b>unlimited</b>