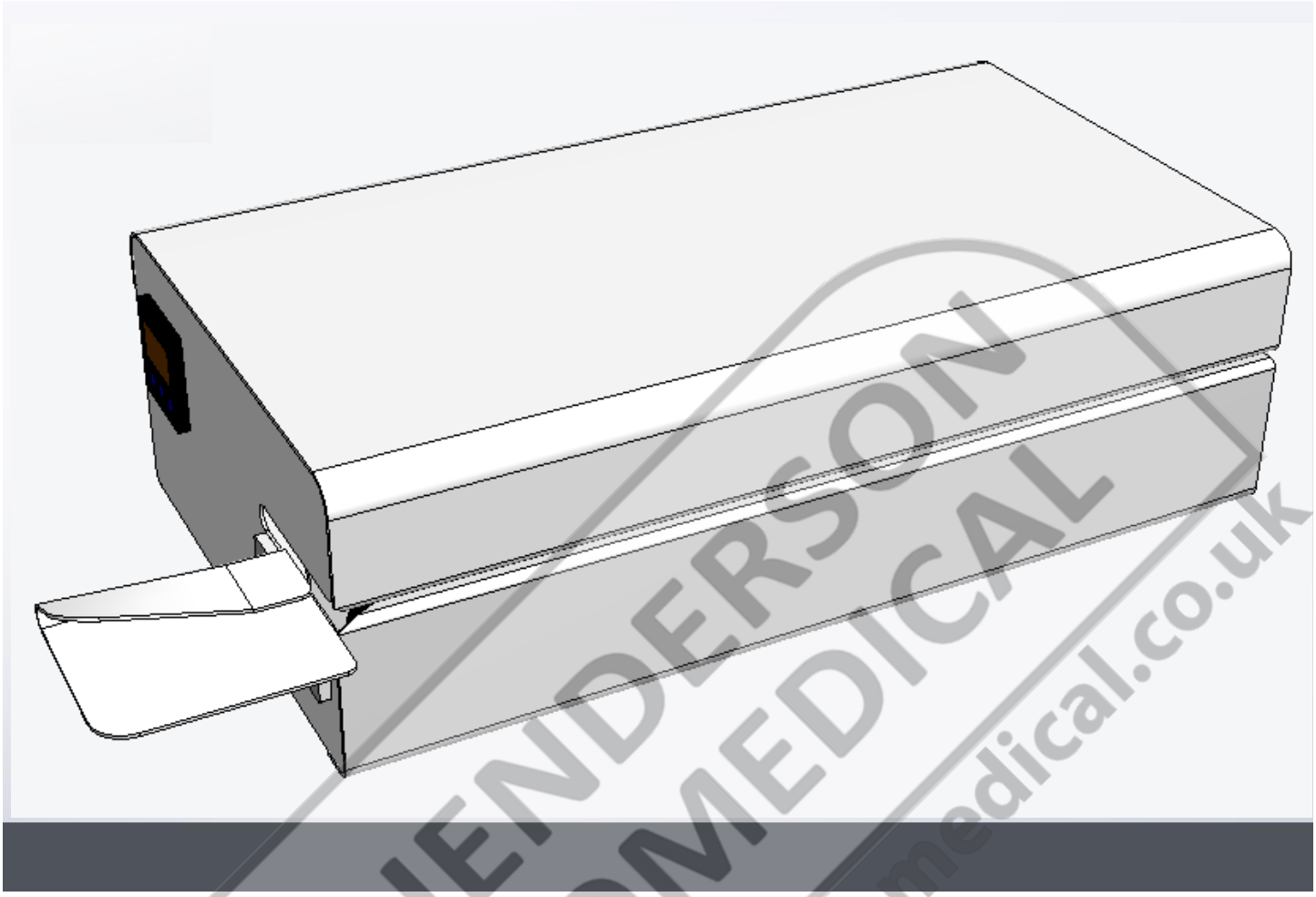


hd 650 D/DE EcoPak

OPERATING INSTRUCTIONS

Valid for device versions hd 650 D/DE **EcoPak**

9.693.004

1 Introduction

1.1 Preface

First of all we would like to thank you for purchasing this sealing device.
In these instructions you will find information about using the device, servicing and care as well as process validation.

The sealing device is a microprocessor controlled rotary sealer with a printer for packaging sealable transparent pouches and reels (med. packaging).

Please read these operating instructions carefully before commissioning so that you are familiar with the capabilities of the device and you can make optimum use of its functions.

1.2 Legend

	The exclamation mark in the triangle draws your attention to important notes in the operating instructions, which must absolutely be observed.
	This warning sign refers to measures that could result in danger to human health if they are not observed. It is compulsory to observe it.
☞	Tips with a hand symbol next to them relate to daily practice.

1.3 Important notice

In accordance with the intended use, the CE marking is displayed based on the following EU directives:
2006/42/EC, 2014/30/EU and 2011/65/EU.

The Medical Device Directive 93/42/EEC and Medical Device Regulation 2017/745 (MDR) is not applicable to sealing devices.

The limit values of IEC 60601-1 must not be applied in repeated electrical inspections.

The manufacturer accepts no liability whatsoever for damage caused by tests in accordance with standards not listed in the declaration of conformity.

In the event of conversion work or interventions to the device undertaken without the express written permission of the manufacturer, the warranty shall be deemed void and any liability for physical or material damage shall be transferred to the operator.

Note
We are constantly improving our products, therefore we reserve the right to modify these operating instructions and the functions described in them.
These operating instructions apply to products from the hd 650 D/DE EcoPak series.

1.4 Cleaning

Before cleaning, disconnect the mains plug from the socket and disconnect the device from the power supply with the plug.
Clean the device only with a dry or damp soft cloth and a mild cleaning agent. (E.g.: isopropanol, spirit, etc.)
Do not allow any water to find its way into the device.

Caution! Never wet clean the device!

1.5 Safety instructions

1. Our products are in a flawless condition in terms of safety technology when they leave the plant.

2. To maintain this condition, the contents of these safety instructions as well as type plates, labelling and safety instructions attached to the device must be observed while handling the device (transport, storage, installation, commissioning, operation and maintenance).

3. This device is suitable for processing laminated films in the heat-sealing process. See also chapter 2.1 "Intended use".

4. Please check the packaging, and lodge a complaint for any damage with the carrier or parcel service immediately, before installing the device.

5. Before commissioning, ensure that the device does not show any evidence of damage. In case of doubt, contact the manufacturer or a service partner authorised by the manufacturer.

6. Do not operate the device if the power cable or the power plug is damaged. Do not use the device if it does not operate correctly or it is damaged in any way. If the mains cable or the device have been damaged, the device must be repaired by the manufacturer or by one of the manufacturer's authorised service partners.

7. The device must be connected using the mains cable included in the scope of delivery to a protective contact socket with a stable voltage. Operation on IT networks is not permitted.

8. Place the device on a stable base.

9. The device must not be installed or operated in potentially explosive areas.

10. If the sealing device is brought directly from a cold environment into a warm environment, condensation may form. Wait until temperature equalisation has taken place.
Starting up the device when it contains condensation causes danger to life!

11. Repairs and the replacement of wear parts / spare parts must be performed only by the manufacturer or by one of the manufacturer's authorised service partners.

12. Switch off the device when it is not in use, or remove the power plug from the socket.

13. Before cleaning: Disconnect from the mains! Clean the device only with a dry or damp soft cloth and a mild cleaning agent. Do not allow any water to find its way into the device. Caution! Never wet clean the device!

14. Do not insert pointed or flat items into the import slot of the device. This can result in damage to the device and instruments.

15. Do not insert items into the louvres of the device. You may receive an electric shock or the device could be damaged.

16. Do not use the device if you have any doubts about its safety.

17. The device must not be installed or operated by persons under 16 years of age.

18. The device must not be operated unsupervised.

19. It is forbidden to operate the device under the influence of drugs or alcohol.

20. Keep hair, clothing and gloves away from moving parts! Loose clothing, jewellery or long hair can be caught by moving parts.

21. The device contains valuable materials that can be recycled and reused.
The device should therefore be disposed of at a public disposal facility near you.
The device has been labelled in accordance with Directive 2002/96/EC (WEEE) on waste electrical and electronic equipment.
This directive governs the return and recycling of scrap equipment within the EU.

2 Before starting

2.1 Intended use

SEALING MATERIALS

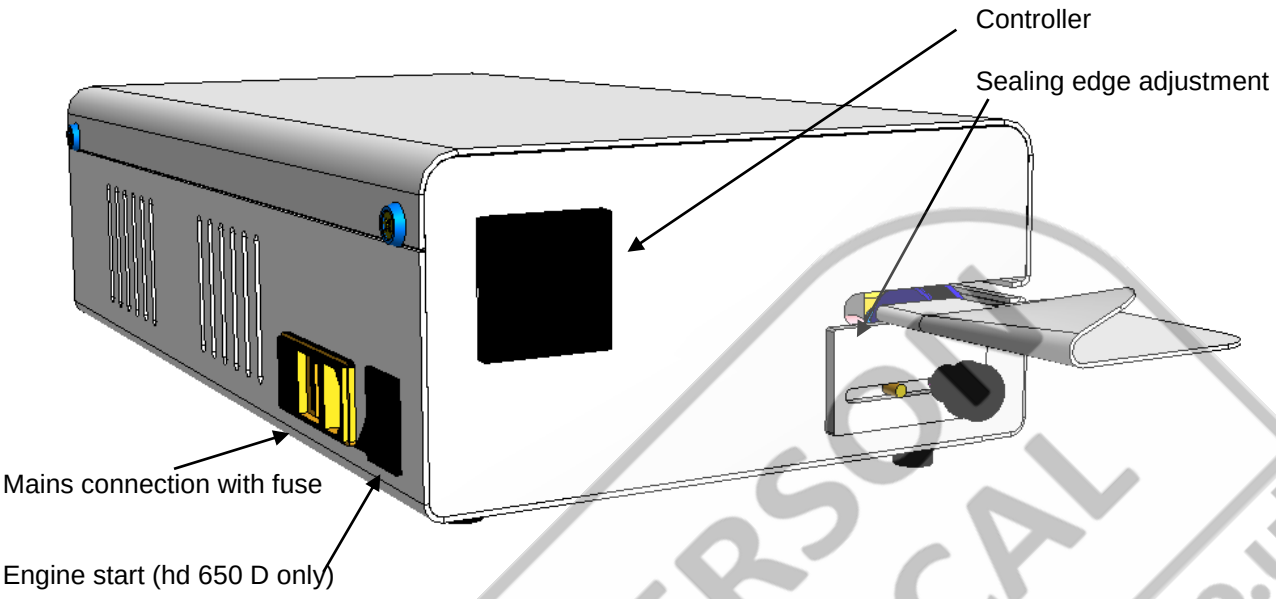
Sealable paper pouches in accordance with EN ISO 11607-1/EN 868-4	x
Sealable pouches and tubes in accordance with EN ISO 11607-1/EN 868-5 made of film and paper as per EN 868-3	x
Sealable pouches and tubes in accordance with ISO EN 11607-1/EN 868-5 made of film and uncoated materials made of polyolefins as per EN 868-9 (e.g. Tyvek®[1])	x[2]
Sealable pouches and tubes in accordance with ISO 11606-1/EN 868-5 made of PP fleece or PP non-woven	x[2]

NON-SEALABLE MATERIALS

Soft PVC films
Polyamide films
Coated HDPE
Aluminium-laminate film
Polyethylene films
Hard PVC films
Polypropylene films

[1] Tyvek® is a registered trademark of E.I. du Pont Nemours.
[2] Release and / or test required

2.2 Design and functions



2.2.1 Sealing process sequence

Step 1: After the sterilisation packaging has been inserted, the feed is automatically switched on.

Step 2: The sterilisation packaging is now transported and the area is heated to the set sealing temperature.

Step 3: The sealing seam, which is now heated, is pressed together by the sealing rollers and sealed.

Step 4: The finished sterilization packaging is transported to the extraction side.

Step 5: If no item to be sealed is fed in, the feed switches off after approximately 30 seconds.

2.3 Installation

The device must not be installed or operated in potentially explosive areas.

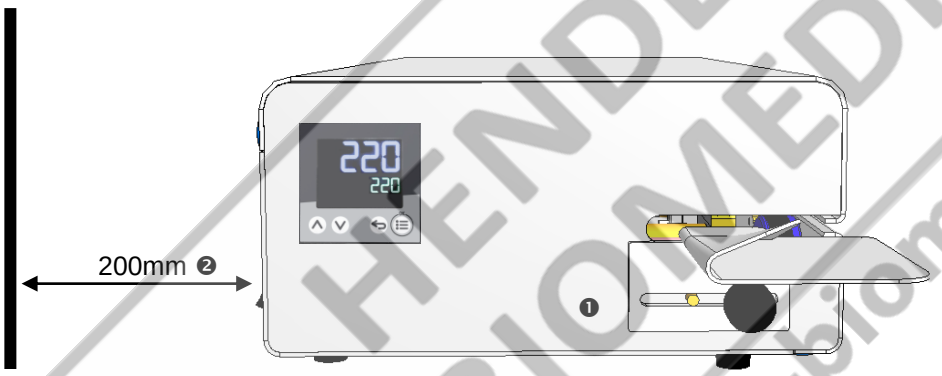
Only use sockets that are equipped with a protective conductor and where the mains voltage is stable.

The device may only be installed in a dry environment. Heavy dust, steam, dripping water or splashing water impair the function of the device.

Please make sure that the operating voltage corresponds to the specifications on the device's type plate.

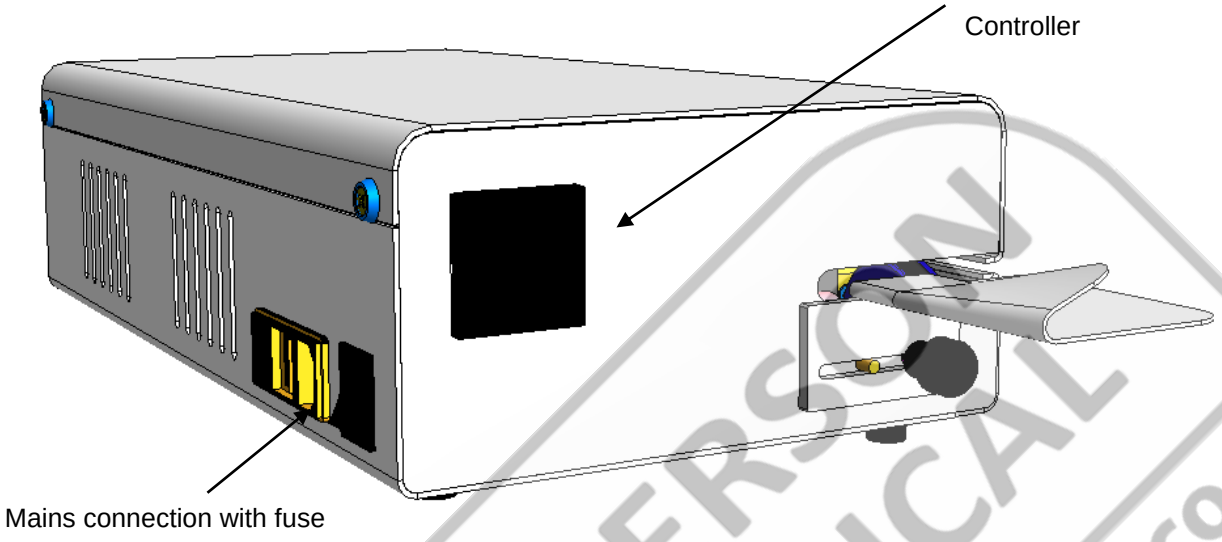
❶ Please do not transport the device on the peel edge setting.

❷ The distance from the device to a wall must be at least 200 mm!



3 Basic functions

3.1 Operation



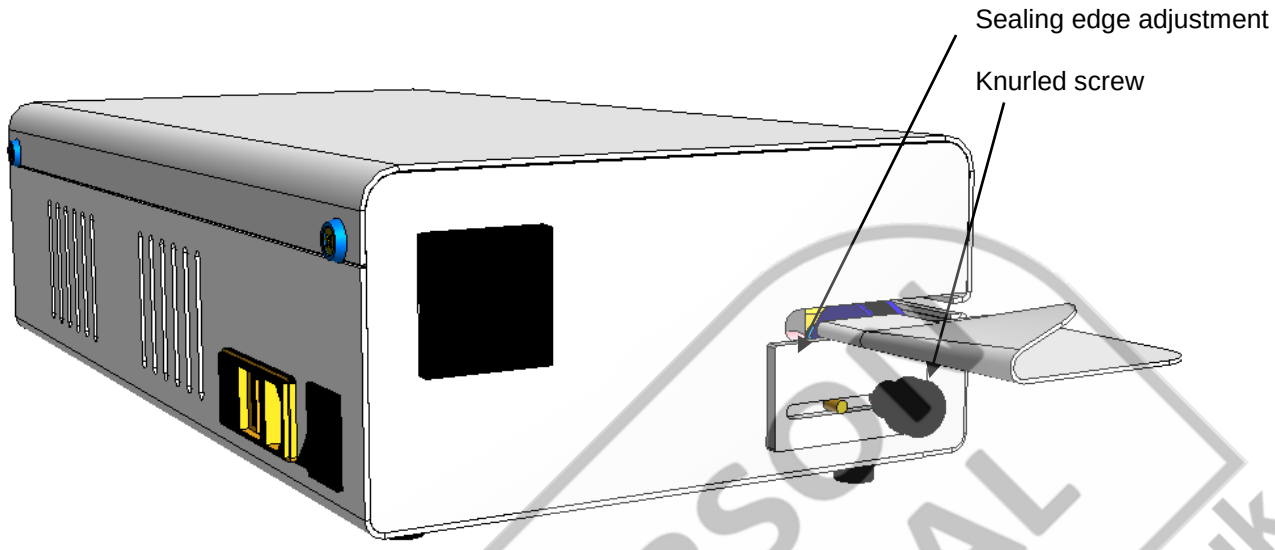
Schritt 1: Plug the mains cable into the mains connection.

Schritt 2: Switch on the device with the mains switch in position "1".
The indicator light in the switch is lit.

Schritt 3: Set the required sealing temperature on the temperature controller as described in Chapter 3.3.

Schritt 4: The device is heated up and ready for operation as soon as the set sealing temperature is displayed.

3.2 Operation



Schritt 1: Set the required sealing edge width. After loosening the knurled screw, the lower insertion plate can be continuously adjusted for sealing edge widths of 0 - 30mm.

Schritt 2: Insert packaging into the device from the left via the insertion plate.

Schritt 3: Remove the sealed package on the outlet side and allow to cool down briefly.

☞ **Check of the sealing seam**
If leaks appear, the sealing temperature must be increased. If the film melts, the set temperature is too high.

As per DIN 58953 -7, the suitable sealing temperature is to be determined by test sealing.

3.3 Process variables

Sealing temperature

The temperature is monitored electronically by means of a temperature sensor.
If this varies from the set value by 5°C (requirements set out in DIN 58953-7), the drive is locked.

3.4 Setting the temperature controller

❶  ❷ ❸ ❹ ❺	❶ Controller ❷ Temperature setting upwards ❸ Temperature setting downwards ❹ Cancel ❺ Menu / Confirm ❻ LED – 1 → Process status display ❼ LED – 4 → Heating status

Input of the set temperature

The ❺ key is pressed once

Confirm "MENU" [User Level] selection level by pressing the ❺ key twice

Setting the temperature with the ❷ **[+1°C]** ❸ **[-1°C]** keys

The input is activated with the ❺ key → OK appears for 2 seconds

Exit the input by twice pressing the key ❹

Default setting:

Set temperature 180 °C

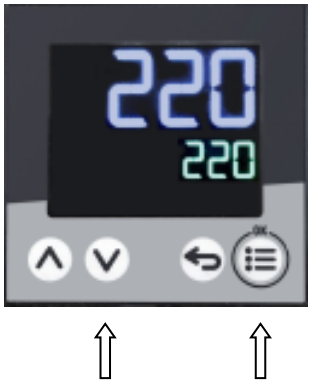
4 Troubleshooting and maintenance

4.1 Troubleshooting checklist

Malfunction	Possible cause	Remedy
Device does not switch on	Power supply	
	Power cable not plugged in	Check the mains connection and, if necessary, plug into a different power outlet.
	Power cable defective	Replace power cable
	Line fuse	Replace line fuse. If the fuse blows again, it is imperative to have the device tested!
Device fails to heat up	Set temperature is too low	Increase set temperature
	Overtemperature fuse has tripped	Push in the overtemperature fuse. If it still trips it is imperative to have the device tested!
	Temperature controller	Replace temperature controller
	Heating cartridge	Check heating cartridges and replace if necessary
	Solid state relay	Replace solid state relay
	Set temperature not reached	
No material transport	Motor faulty	Replace motor
	Microswitch faulty	Replace microswitch
Uneven material transport	Toothed belt damaged	Replace toothed belt
	Toothed belt does not transport	Check the tension of the toothed belt
Loud running noise	Motor faulty	Replace motor
Sealing seam will not hold	Sealing temperature too low	Increase sealing temperature
	Distance between the sealing dies is too large	Set the distance between the sealing dies to 0.5mm
Sealing seam distorted or melted	Sealing temperature too high	Reduce sealing temperature

4.2 Offset – setting the temperature

4.2.1 Revoke key lock



1. Switch on the device
2. Check if the device is heating
3. Press and hold the two keys "Arrow down" & "Menu" simultaneously.
4. Change level from CONFIG. and PARAM. to NONE.
5. Press the Menu/OK key
6. Controller unlocked

4.2.2 Offset – Make setting

1. Press the Menu / OK ❶ key
2. MENU level
   Switch to **CONFIGURATION** with the arrow keys
3. Press the Menu / OK ❶ key
4. CONFIGURATION level
   Switch to **ANALOG INPUT** with the arrow keys
5. Press the Menu / OK ❶ key
6. ANALOG INPUT level
   Switch to **MEASURING VALUE OFFSET** with the arrow keys
7. Press the Menu / OK ❶ key
8. Enter offset value

   E.g.: T_{SET}: 180°C
   T_{ACTUAL}: (measured) 184°C
   MEASURING VALUE OFFSET input: **+4°C**
9. Press the Menu/OK ❶ key
10. Press the Return key twice to return to the display mode.
11. Check values and repeat point 4.2.2 if necessary.

4.2.3 Activate key lock

1. Switch on the device
2. Check if the device heats up
3. Press and hold the two keys "Arrow down" & "Menu" simultaneously.
4. Change level from NONE to CONFIG. and PARAM.
5. Press the Menu/OK key
6. Controller locked

4.3 hawo customer service

Your hawo customer service is available from Mon-Fri 07:30 - 16:30 CET at the following number: +49 (0)6261-9770-0.

4.4 Servicing plan

Like all technical devices, your device is subject to technical wear.
In order to ensure maximum availability, your device should be maintained by a trained professional at least once a year.

Maintenance cycle	Cleaning	PTFE tape Guiding die	PTFE tape Sealing die	Pressure roller	Toothed belt	Distance of Sealing die
At least every 3 months						
Depending on usage, at least once a year						

Legend:

Check **Replace** **Adjust**

4.5 Spare parts service

Convenient spare parts order by fax!
To do this, simply copy the order form.
The form is on the next page.

- Enter address, fax number and order number
- Enter serial number
- Enter the device type
- Mark required items
- Enter required quantity
- Sign order
- Fax order

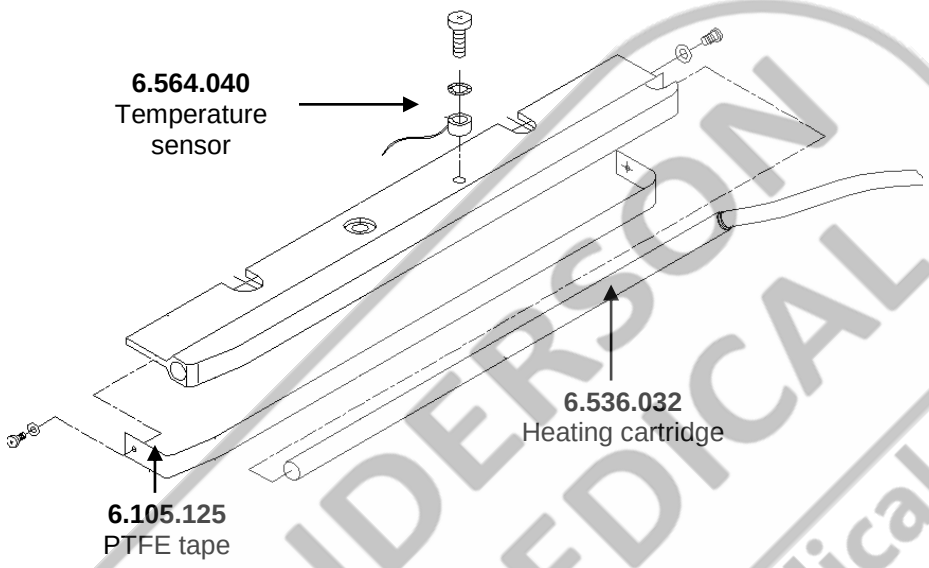
To:
hawo GmbH
Fax no. +49 (0)6261 977069

Sender:
_____
_____

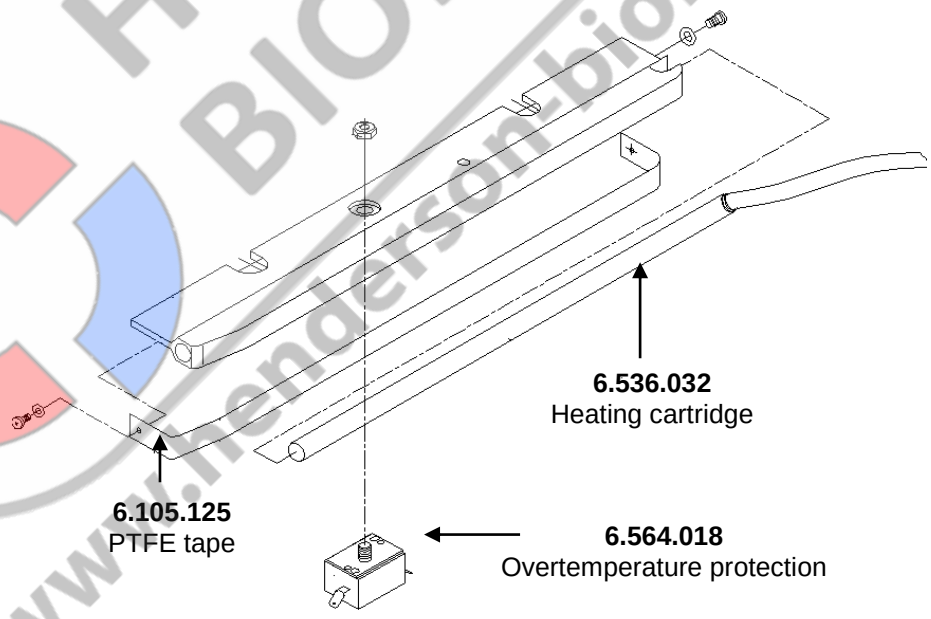
Your order no. _____		**Date** _____	
Device type _____		**Serial number** _____	
☑	**Designation**	**Art. no.**	**Qty.**
☐	Pressure roller	2.230.026	
☐	Gear motor 230 V 115 V	1.212.005 1.212.014	
☐	Time controller 230 V 115 V	1.540.056 1.540.057	
☐	Heating cartridge 115 V/200W	6.536.032	
☐	Fan 230 V 115 V	6.212.019 6.212.021	
☐	PTFE tape heating die	6.105.125	
☐	PTFE tape guiding die	6.105.138	
☐	IEC cable supply with switch	6.562.009	
☐	Safety element for 6.562.009	6.562.049	
☐	Mains cable 230V	6.593.013	
☐	Mains cable 115V	6.593.014	
☐	Opto - Sensor Motor Start (650 DE only)	1.561.016	
☐	SST relay	6.460.001	
☐	Temperature sensor	6.564.040	
☐	Digital temperature controller 110 -240 V	6.564.050	
☐	Overtemperature protection	6.564.018	
☐	Toothed belt transport	6.271.001	
☐	Motor – Start switch (650 D only)	6.562.009	
☐			

4.6 Spare parts ordering – allocation of article numbers

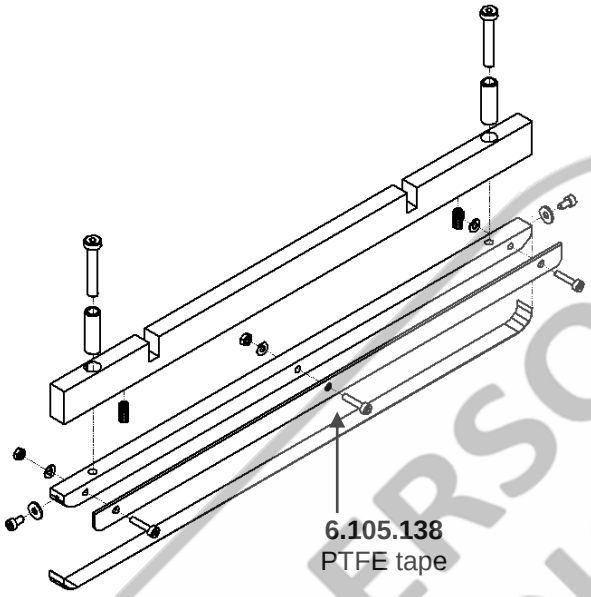
4.6.1 Upper sealing die **1.616.024**



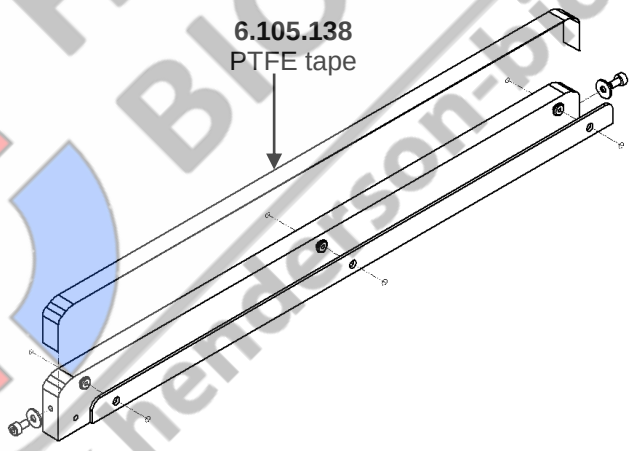
4.6.2 Lower sealing die **1.616.025**



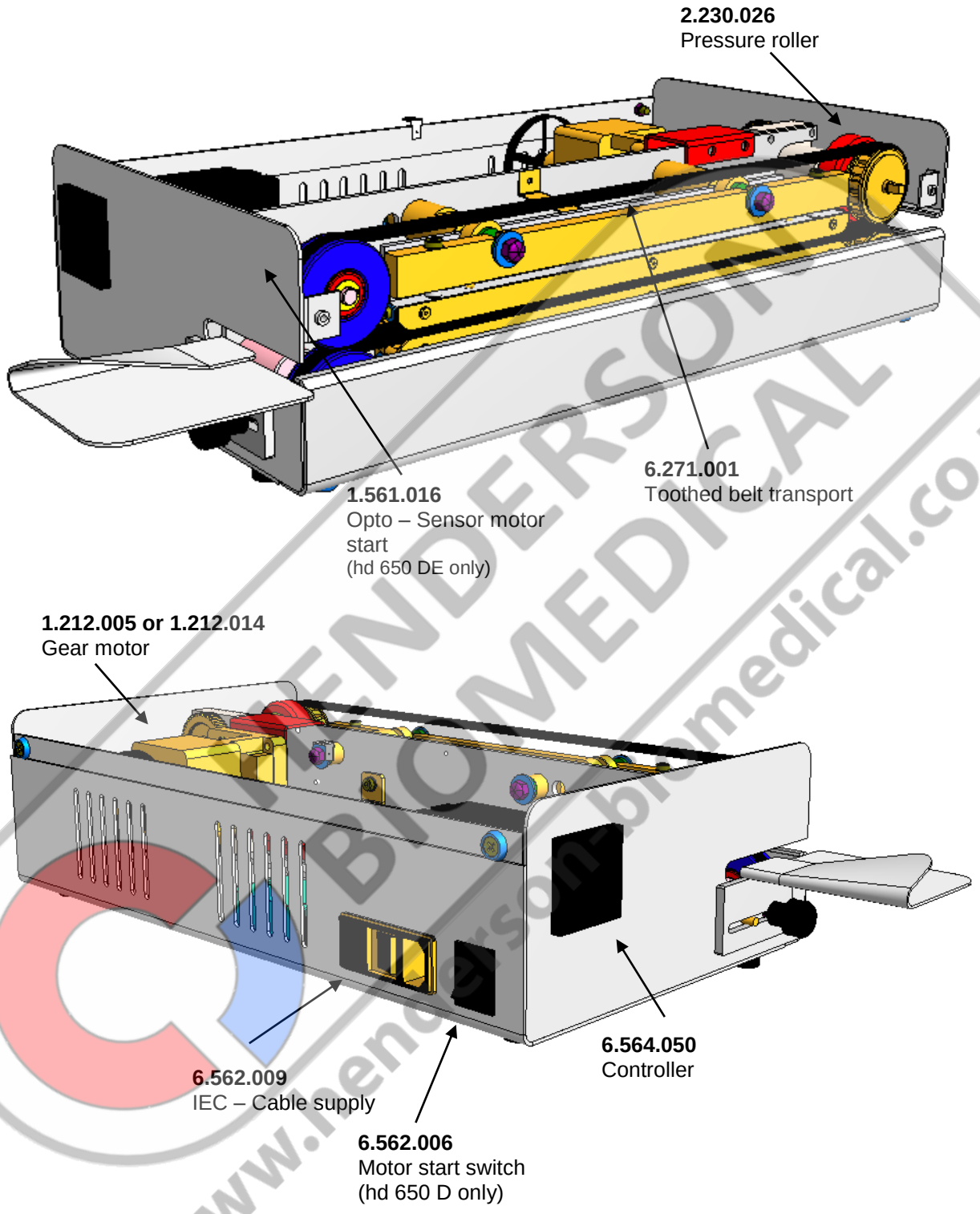
4.6.3 Upper guiding die **1.619.014**



4.6.4 Lower guiding die **1.619.015**

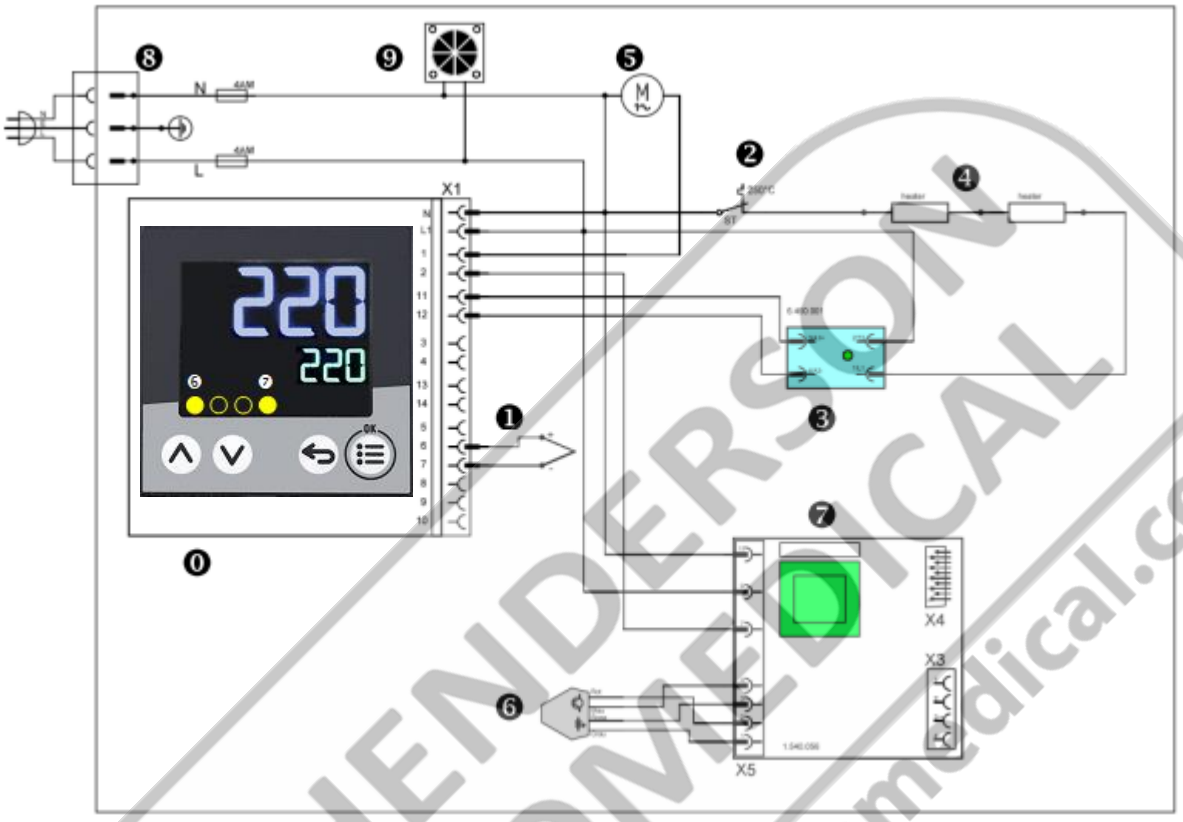


4.6.5 Comprehensive overview



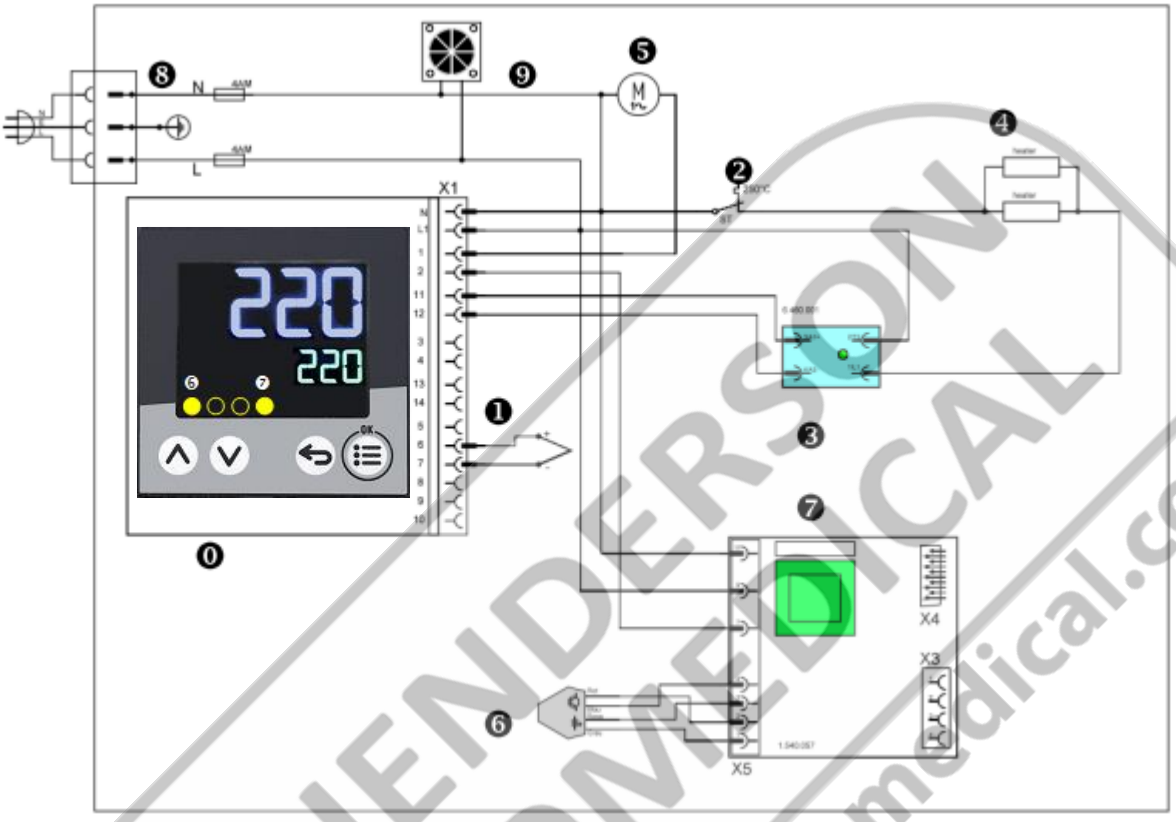
5 Technical data

5.1 Switching and wiring diagram 230V~



⓪	Temperature controller		6.564.050
①	Temperature sensor		6.564.040
②	Overtemperature protection		6.564.018
③	SST relay		6.460.001
④	115V/200W heating cartridges		6.536.024
⑤	Gear motor	230V	1.212.005
		115V	1.212.014
⑥	Optical sensor		1.561.016
⑦	Time relay	230V	1.540.056
		115V	1.540.057
⑧	IEC cable supply with switch		6.562.009
⑨	Fan	230V~	6.212.019
		115V	6.212.021

5.2 Switching and wiring diagram 115V~



5.3 Specifications

Connection data

Mains connection		[V]	115 / 230
Mains frequency		[Hz]	50 / 60
Power consumption	max.	[W]	390
Mains fuse 115V / 230V		[A]	6.3A / 4A

Mechanical system

Dimensions Including infeed section	Length Width Height	[mm]	505 250 145
Housing			Metal, powder-coated
Weight		[kg]	15
Seal distance from the edge		[mm]	0 – 35
Seal seam width		[mm]	12
Sealing system			Multi – Line
Length of sealing seam		[mm]	Unlimited
Distance from medical product		[mm]	>30 (as per DIN 58953-7)

Process variables/sealing parameters

Sealing temperature	max.	[°C]	220
Sealing temperature switch-off tolerance		[°C]	±5
Throughput speed [fixed]		[m / min]	10
Temperature control tolerance		[%]	±2

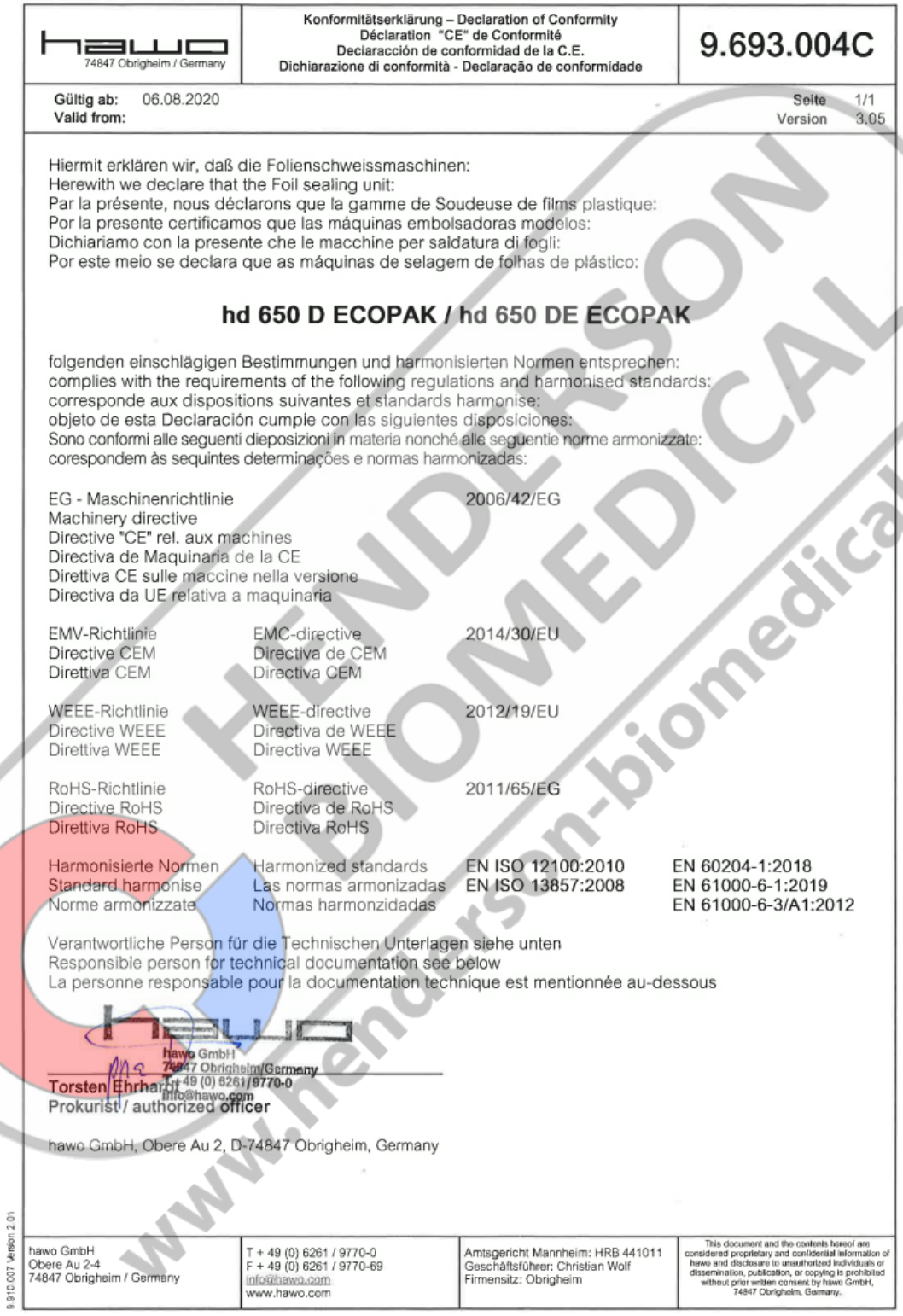
Electronics and communication systems

System	electronic
Electrical protection class	1

Environmental parameters

Ambient temperature	[°C]	5-25
Heat emission	[kJ/s]	0.1
Noise intensity as per Machinery Directive 2006/42/EC Appendix I 1.7.4.2 u.)	[dB/ A]	<70
Relative humidity	[%]	30-80 non-condensing

6 Declaration of conformity



hawo
74847 Obrigheim / Germany

Konformitätserklärung – Declaration of Conformity
Déclaration "CE" de Conformité
Declaracción de conformidad de la C.E.
Dichiarazione di conformità - Declaração de conformidade

9.693.004C

Gültig ab: 06.08.2020
Valid from:

Seite 1/1
Version 3.05

Hiermit erklären wir, daß die Folienschweissmaschinen:
Herewith we declare that the Foil sealing unit:
Par la présente, nous déclarons que la gamme de Soudeuse de films plastique:
Por la presente certificamos que las máquinas embolsadoras modelos:
Dichiariamo con la presente che le macchine per saldatura di fogli:
Por este meio se declara que as máquinas de selagem de folhas de plástico:

hd 650 D ECOPAK / hd 650 DE ECOPAK

folgenden einschlägigen Bestimmungen und harmonisierten Normen entsprechen:
complies with the requirements of the following regulations and harmonised standards:
corresponde aux dispositions suivantes et standards harmonise:
objeto de esta Declaración cumpie con las siguientes disposiciones:
Sono conformi alle seguenti dieposizioni in materia nonché alle seguentie norme armonizzate:
corespondem às sequintes determinações e normas harmonizadas:

EG - Maschinenrichtlinie Machinery directive Directive "CE" rel. aux machines Directiva de Maquinaria de la CE Direttiva CE sulle maccine nella versione Directiva da UE relativa a maquinaria		2006/42/EG
EMV-Richtlinie Directive CEM Direttiva CEM	EMC-directive Directiva de CEM Directiva CEM	2014/30/EU
WEEE-Richtlinie Directive WEEE Direttiva WEEE	WEEE-directive Directiva de WEEE Directiva WEEE	2012/19/EU
RoHS-Richtlinie Directive RoHS Direttiva RoHS	RoHS-directive Directiva de RoHS Directiva RoHS	2011/65/EG
Harmonisierte Normen Standard harmonise Norme armonizzate	Harmonized standards Las normas armonizadas Normas harmonzidadas	EN ISO 12100:2010 EN ISO 13857:2008

EN 60204-1:2018
EN 61000-6-1:2019
EN 61000-6-3/A1:2012

Verantwortliche Person für die Technischen Unterlagen siehe unten
Responsible person for technical documentation see below
La personne responsable pour la documentation technique est mentionnée au-dessous

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Prokurist / authorized officer

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9.910.007 Version 2.01

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Henderson Biomedical is also able to provide you with first class after-sales service and calibration of your laboratory equipment. We are an **ISO 17025 (UKAS) accredited calibration test laboratory** and our team of Field Service Engineers cover the whole of the United Kingdom.

Please contact us for more information on the types of equipment we supply and the different after-sales services we can offer.

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