



Thermopatch
Since 1934

USER MANUAL

NL-28 v.3



ATTENTION!

All persons involved in installation, commissioning, operation, maintenance, and repair of this product should be made available to these instructions.



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Introduction

Dear User,

Welcome to the growing group of Thermopatch users.

Your purchase has been manufactured with the utmost care to ensure that you benefit as long as possible from your Thermopatch product.

The products by Thermopatch are designed with special attention to your convenience. Should you discover any fault or damage upon receipt of this product, please contact your local Thermopatch vendor. The manual has been prepared in accordance with NEN 5509 and in conformity with the Machinery Directive 2006/42/EC.

This user manual is intended not only for all users of the machine, but also for those who install and maintain the NL-28 v.3. The goal is to familiarize you with the operation, to provide for safe working instructions and guidelines for periodical maintenance.

ATTENTION!

*In order to make safe and optimal use of the NL-28 v.3 it is important to take notice of -
and understand the contents of this manual.*

Index

Copyrights	2
Introduction	2
Contents	3
1. General description	4
1.1 Delivery	4
1.2 Conditions of Warranty	4
2. Intended use	4
3. Operating instructions	5
3.1 Installation	5
3.2 Operating the NL-28 v.3	6
3.3 Using the control panel	7
a Pressing time	8
b Temperature setting	8
c Item counter	8
d Presets	9
e Settings	9
List of alarms/events	11
4. Overview of safety measures and warnings	12
4.1 Safety	12
5. Technical specifications	13
5.1 Specifications of the NL-28 v.3	13
6. Transport and storage	14
6.1 Transport	14
6.2 Storage	14
7. Maintenance	15
8. Technical annexes (English)	16
Troubleshooting	17
Drawing 01 Image with details	18
Drawing 02 Electrical diagram	19
9. End of life	20
10. Declaration of Conformity CE and UKCA	20
11. Disclaimer	21



1. General description

The NL-28 v.3 is a practical and universal heat seal press with a sliding and reversible sealing pad for optimal use. Textile labels, company emblems, repair patches, transfers, in short all Thermopatch materials for marking and repair are easily and permanently pressed on all types of fabric.

1.1 Delivery

The NL-28 v.3 is mounted onto a pallet and covered with a plywood box.
The following articles are included:

- NL-28 v.3 heat seal machine
- Power cord

If one of these articles should be missing or faulty, please contact your Thermopatch supplier.

1.2 Conditions of warranty

Thermopatch points to its warranty and product liability conditions as laid down in our general terms and conditions. These can be obtained at your Thermopatch supplier.

2. Intended use

The NL-28 v.3 is a heat seal machine that is intended for the application of heat seal transfers but also repair patches, heat seal emblems and labels. In short, all Thermopatch marking and mending materials can be applied with the NL-28 v.3.

▲ WARNING!

*Any use other than described above can be dangerous and cause damage
and thus qualifies as 'misuse' which excludes Thermopatch BV from any liability.*





3. Operating instruction

3.1 Installation

Unpacking

- Remove the press from its packaging.
- Place the machine on its operating location.
- For carrying the press, ensure that the press is cold and move the press by holding the two plates (top and bottom) at the same time (closed press).
- Remove the screw labelled « Transport security » before opening the press.
- Plug the machine into the electrical mains (230 Volt grounded / 50 - 60 Hertz).





Choosing the working direction with the reversible lower plate

This press is standard equipped with a reversible lower plate (180 °), allowing you to put a T-shirt or other garment either from the front or the back of the plate.

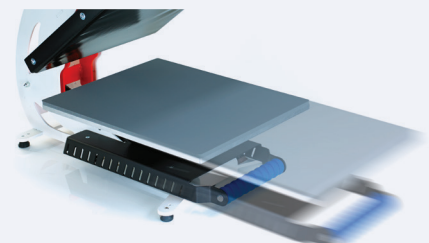
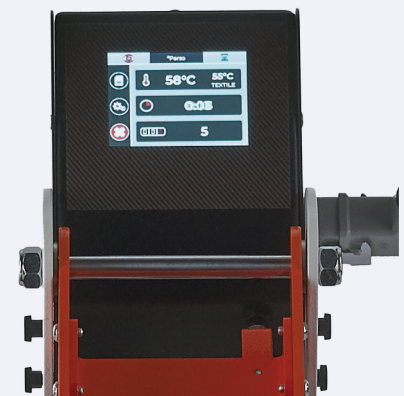
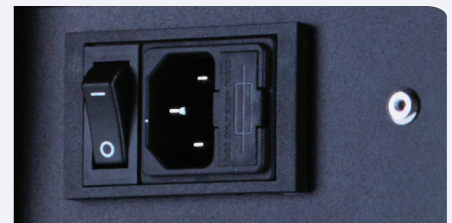


To reverse the direction of the support:

- Loosen and remove both knobs between the support and the lower plate,
- Reverse the support,
- Replace and tighten both knobs again under the lower plate

3.2 Operating the NL-28 v.3

- Switch on the press by pressing the power switch located at the rear.
- Adjust set point temperature.
- Adjust sealing time.
- If desired, set the preheating time.
- Adjust the pressure (according to the type of transfer).
- Place the garment on the lower plate.
- Place the transfer.
- Once the heating plate has reached the desired temperature, close the machine with the handle.
- When the machine is closed, the timer starts running.
- At the end of the sealing time, the press will open automatically.
- If you want to interrupt the cycle, you can do it by pushing the stop button located on the control panel: the press will then open automatically within 2 seconds.
- Use the handle to slide the lower plate forward and backward.



3.3 Using the control panel

NL-28 v.3 control panel

The temperature and time are shown on the display.



a) Pressing time

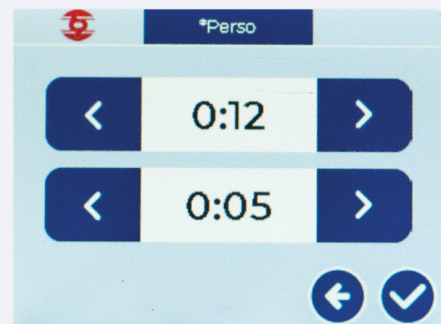
Press this menu to set the machine's pressing time.

Use the left and right arrow keys to increase and decrease this setting.

You can also have two consecutive pressing times (cf. "Settings (e)").

You can also change this setting by pressing the time display and entering the required time from the touch pad.

Once you have entered the required time, press the confirm key in the bottom right corner of the screen.



b) Temperature setting

Press the temperature menu. You can select the temperature you require in the same way as for the pressing time, using the arrow keys on the left and right of the temperature display. You can also click on the reading and manually select a temperature.

When entering a temperature below 100°C, place a 0 before the desired value (e.g. 090° C).

Select the material profile you wish to press from the 3 options provided (TEXTILE, RIGID and DTG) and press the confirm icon.



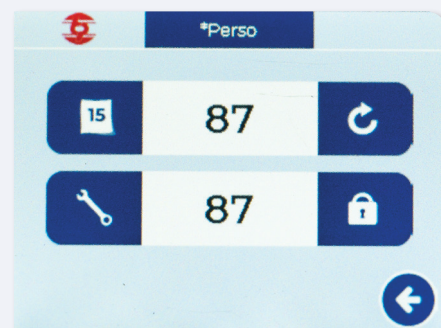
c) Item counter

This menu shows how many items the machine has printed.

When you click on this icon, two counters are displayed.

The first counter shows the partial count. It can be reset to zero by pressing the arrow to its right.

The second counter shows the total number of items printed since the machine was installed. This count is permanent and cannot be reset.



d) Presets

Pressing the Presets icon brings up the menu shown opposite. Use the left and right arrows to select one of the 5 pre-configured presets. To use a preset, press the floppy disk icon with the arrow pointing to the right. Once selected, press the home icon in the bottom right corner to return to the main menu.

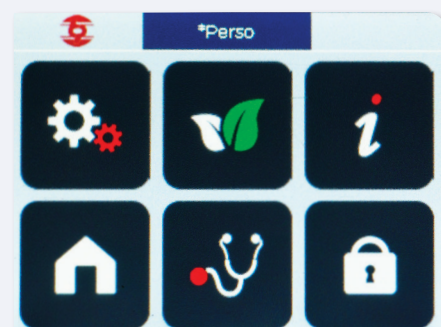
To create or alter a preset, you must first set the time and temperature from the main screen and then select a memory slot (1 to 5) from the preset screen. To rename a preset, press the pencil icon. Give your preset a name and press the arrow in the bottom right corner to confirm. To finish, press the floppy disk icon with the arrow pointing to the left to save your choice/setting.








e) Settings



Press this icon in the main menu to go to the machine settings. There are 6 available options.

The first option, represented by 2 gear wheels, lets you change the machine's technical aspects. Touching this option brings up another 6 icons.







	Lets you choose whether the machine emits a sound each time the touch screen is used.
	Lets you enable or disable an alarm when the pressing time is complete.
	Lets you choose the unit of temperature: Celsius or Fahrenheit.
	Lets you enable another timer for the pressing time. With this option enabled, you can alter 2 times in the pressing time menu.
	The left arrow takes you back to the previous menu. The right arrow takes you to other settings.

The other settings:






	<p>The setting in the top left corner shows that the machine is pressing within the set temperature range. This range can be set by pressing the icon and entering the 2 required temperatures. A non-locking warning will be displayed. It will be ignored during the 2nd pressing and allows the work continue even if the setpoint is not reached.</p>
	<p>The setting at the top right lets you adjust the screen brightness. There are 3 brightness levels from low to high.</p>

To return to the settings menu, press the left arrow twice.

	<p>The green leaf icon is used to set energy-saving mode.</p> <p>The operator can choose: After how many hours and minutes energy-saving mode comes on. The temperature at which the press switches over (only if it is below the setpoint temperature). Energy-saving mode is switched off when the screen is pressed.</p> <p>The board will only switch to eco mode if it is on the home screen. If the user leaves the press on another screen, the screen is presumed to be in the process of being altered. The press should not switch to eco mode.</p>
	<p>The "i" at the top right provides key information about the software version. Press the arrow in the bottom right corner to return to the previous menu.</p>
	<p>The diagnostic button brings up the machine status so you can see if there are currently any malfunctions.</p>
	<p>The padlock icon can only be accessed by an approved service technician.</p>

The last icon is home, which takes you back to the machine's main menu.

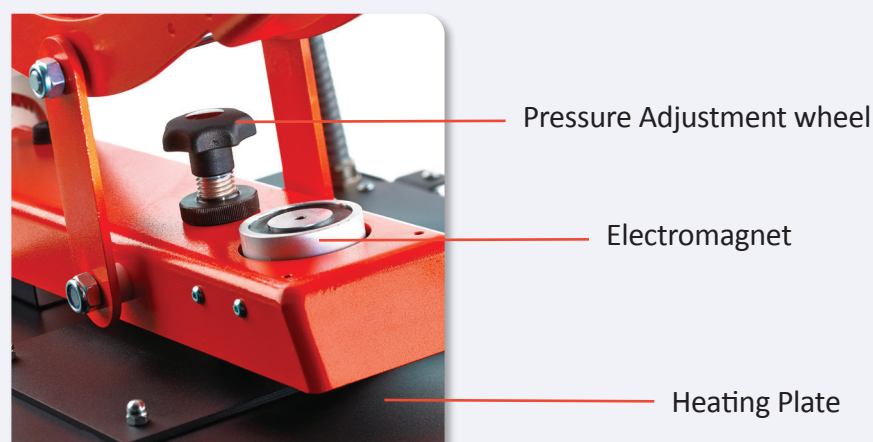
List of alarms/events:

Alarm 01: PT100		Inconsistent interpretation of the reading - Probe signal lost (sensor or cable). The heating control is instantly disabled.
Alarm 02: Platen overheating		Temperature reading above 240° C. The heating control is instantly disabled.
Alarm 06: Platen lift		The top travel limit is not read during the lift phase before the platen lift time-out ends.
Alarm 10: Pb COM.		Communication between the power board and the screen board interrupted. Contact your reseller.
Alarm 13: Temperature setpoint not reached		Rising or falling temperature triggers before + or – 30° C maximum around the setpoint.

Press in the red zone to clear the fault. The work page will be displayed.

3.4 Pressure Adjustment

The pressure is obtained by decreasing the gap between the upper hot platen and the lower cold platen.



- Loosen the nut to unsecure the pressure adjustment wheel.
- Turn the wheel on the top of the heating plate: clockwise to increase the pressure, counter clockwise to decrease the pressure.
- Tighten the nut back to lock and secure the pressure adjustment wheel.

4. Overview of safety tips and warnings

4.1 Safety tips and warnings

Warning symbols:

for additional safety the following symbols have been placed on the machine:

WARNING!



Hot surface



Electric tension

ATTENTION!

*Make sure you are informed about the contents of this manual before starting to work with the NL-28 v.3.
This ensures an optimal and safe use of the machine.*

ATTENTION!

*Always turn the power off (unplug it) when you need to carry out maintenance work or when
cleaning the machine.*

ATTENTION!

*Take care that there is enough space around the machine. Cables and connections must not get pinched.
Although the heat radiation of the press is low, there should be enough space for cooling down.*

ATTENTION!

Avoid contact with the heating element.

ATTENTION!

*Pull the fabrics tight around the press pad and ensure that your hands are away from
the sealing pad before operating the machine.*

5. Technical specifications

5.1 Specifications of the NL-28 v.3

Power	2500 Watts
Power supply	230 Volt 50/60 Hz
Operating temperature	180 °C
Temperature range	0-220 °C
Press Time range	0-9 min. 30 sec.
Thermoregulator accurate up to	+/- 1%
Adjustable pressure range	0-450 g/cm ²
Machine height (closed)	570 mm
Machine height (open)	969 mm
Machine width	439 mm
Machine depth	830 mm
Machine depth (lower platen forward)	1020 mm
Gross weight, including packaging	75 kg
Net weight	57 kg
Size sealing pads, size	400 x 500 mm
Fuses	16.0 Ampere
A-weighted noise level	<70 dB (A)





6. Transport and storage

6.1 Transport

When the machine needs to be moved, Thermopatch advises to use the original packaging.

For carrying the press, ensure that the press is cold and move the press by holding the two plates (top and bottom) at the same time (closed press).

Ensure that the screw designated for «Transport security» is in place to secure the platens for carrying.

6.2 Storage

When the machine needs to be stored, Thermopatch advises to use the original packaging.

The machine should be stored on a pallet, off the floor, in dry conditions.





7. Maintenance

Make sure that the working cycle of the machine has ended before you start working on the machine.

Teflon cover:

The teflon film protecting the element must be cleaned regularly to prevent sticking of labels and patches or the transfer of dirt to the garments. Clean the Teflon cover with a dry, clean cloth while the machine is still warm. Repeat the process regularly as often as necessary. Damaged or soiled Teflon protection should be replaced. These are available from your Thermopatch supplier.

Rubber cushion:

Clean the still warm rubber plate with a clean, lint-free cloth. Clean it as often as necessary. Damaged or soiled rubber sheets must be replaced. These are available from your Thermopatch supplier.

Replacing the rubber cushion:

- Turn off the device and allow it to cool
- Make sure both the bottom metal plate and the rubber cushion are clean and free of grease
- Apply SPA-0892330 silicone adhesive (with a glue comb) to the metal plate and place the rubber plate immediately with no air bubbles
- Allow to dry overnight at room temperature under light pressure without heating.

ATTENTION!

*Switch off the machine and disconnect from the electrical power
Make sure the NL-28 v.3 has cooled down enough before starting maintenance or repairs.*

8. Technical Annexes

In this chapter you will find the parts list, a drawing, and a wiring diagram.

Parts list 01

TP Code	Description	Quantity
SPA28-103	MAIN BOARD	1
SPA27-003	HEAT RELAY	1
SPA28-102	HEATING ELEMENT MICA 400x450 2500W	1
SPA3X-024	SENSOR	1
SPA27-002	MICROSWITCH WITH TONGUE	1
SPA33-002/A	SILICONE RUBBER 400x500 mm	1
SPA27-006	GAS SPRING	1
SPA3X-004	ELECTROMAGNET 230V 7W	1
SPA3X-003	Fuse 16 A SLOW	2
SPA28-100	SET OF FOUR LOWER PLATENS	1
SPA28-101	NOMEX PROTECTION COVER 40 X 50 CM	1

Troubleshooting

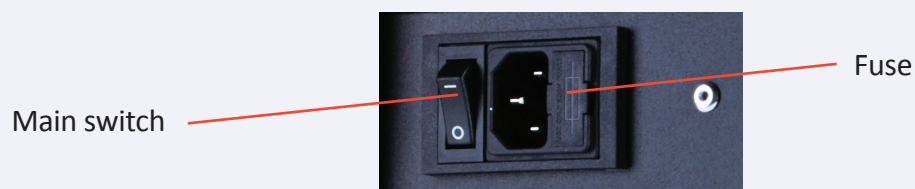
In this paragraph you will find the most common problems, causes and solutions.

Symptoms	Possible breakdowns	Repairs
The heating platen will not heat up.	One of the fuses is out of order The relay is damaged Sensor out of order and/or the display shows ER1	If there is no light when the press is on, check the fuse, change when necessary. The main fuse is located in a seating next to the plug of the power supply cable (16 A). To access it, pull the electrical cable off and with the tip of a pen or a screwdriver, lift the cover of the fuse holder. There you will find a spare fuse in a square tube for replacement. Check the relay and replace when necessary. Check the sensor, and replace when necessary.
The heating platen overheats	The relay is stuck The electronic board is damaged	Replace the relay Replace the electronic board
The timer doesn't start	The microswitch is not activated	Ensure that the activator of the switch is touched by the press arm of the machine.
The buzzer sounds continuously while the press is opened	The microswitch is not set correctly	Check the position of the activator of the microswitch and adjust when necessary
The press will not stay closed	The microswitch is not set correctly The electromagnet is not properly activated or defect	Check the position of the activator of the microswitch or replace the microswitch. Check the wiring and the connections.

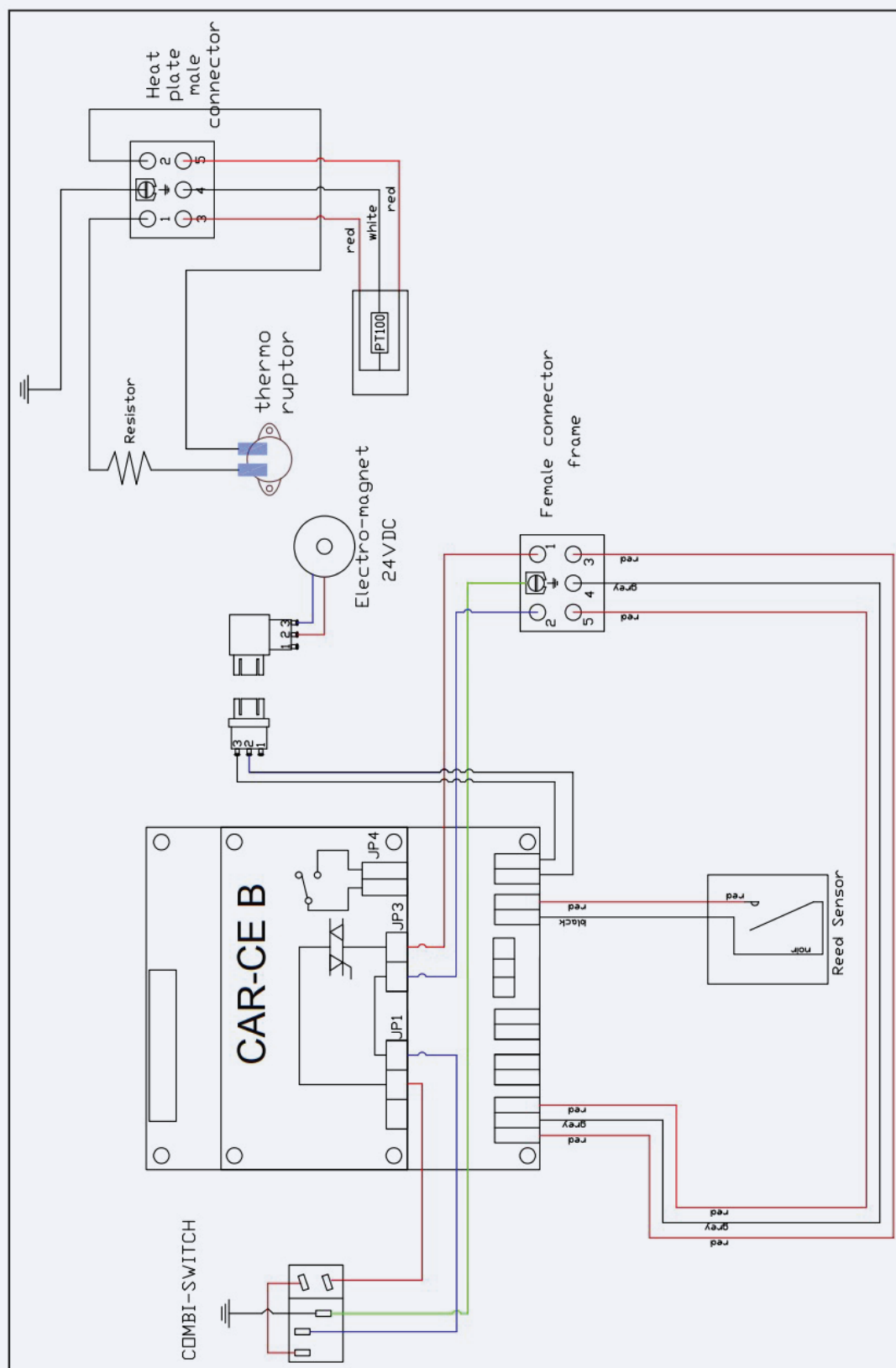
WARNING!

*All repair and maintenance operations should be done when the machine is turned off and unplugged from the main electric power supply. Ensure that the machine has cooled down before starting repairs or maintenance. The heating element can cause burns.
All repairs must be performed by qualified staff.*

Drawing 01 Image with details



Drawing 02 Electrical Diagram





9. End of life

Choose to dispose of the machine responsibly when it has reached its end of life.
Electrical machinery, accessories and packaging should be recycled as much as possible in an environmentally responsible manner.

- Dismantle the machine groups: steel parts / pneumatic components / electrical components
- These can be separated and returned for recycling.



10. Declaration of Conformity CE and UKCA

We,
Thermopatch BV
Draaibrugweg 14
1332 Almere
Netherlands



herewith declare, on our own responsibility, that the machinery:
Thermopatch NL-28 v.3 heat sealing machine,

which this declaration refers to, is in accordance with the conditions of the following Directive(s):

2014/35/EG (emc directive)
2006/42/EG (machinery directive)

Netherlands, Almere, 01-05-2021


THERMOPATCH BV
P.O. BOX 50052
1305 AB ALMERE
THE NETHERLANDS

Jan Bausch,
Director



We,
Thermopatch BV
Draaibrugweg 14
1332 Almere
Netherlands

declare that the DoC is issued under our sole responsibility and belongs to the following product:

Thermopatch NL-28 v.3, which this declaration refers to, is in accordance with the conditions of the following guidelines:

- Electromagnetic Compatibility Regulations (EMC) 2016
- Electrical Equipment (Safety) Regulations (LVD) 2016
- Supply of Machinery (Safety) Regulations 2008

The Netherlands, Almere, 01-05-2022

Thermopatch BV
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Jan Bausch,
Director

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Thermopatch BV, its subsidiaries, the directors, employees, and agents cannot be held liable for the use and reliance of the opinions and findings in this document.

For any warranty Thermopatch BV refers to its general terms and conditions.

We can confirm that the machines we supply conform to CE when in standard configuration.

Using sealing pads of any format other than the standard supplied with the machine may render the CE declaration invalid.

Thermopatch accepts no responsibility for any damage or injury that may result from possible non-conformity.

Choosing an alternative configuration other than the standard is at the customer's own responsibility.

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