Thermopatch
an Avery Dennison Company

USER MANUAL

NL-33 AUTO MAXI v.3

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

EN **v.1.5** - 04/24

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Introduction

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-33 v.3 Auto Maxi. The goal is to familiarize you with the operation, to provide for safe working instructions and guidelines for maintenance.

ATTENTION!

In order to make safe and optimal use of the NL-33 v.3 Auto Maxi it is important to take notice of - and understand the contents of this manual.

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1. General description

The pneumatic NL-33 v.3 Auto Maxi is a practical, universal heat seal machine. Textile labels, emblems, repair patches, transfers, in short, all Thermopatch materials for marking and repair are easily and durably pressed onto textile fabrics.

1.1 Delivery

The NL-33 v.3 Auto Maxi machines are delivered on a pallet covered with a wooden crate. In the delivery of your NL-33 v.3 Auto Maxi machine you will find:

- NL-33 v.3 Auto Maxi heat seal machine
- Footswitch
- Power cord
- Air tube 6 mm
- CE declaration with serial number
- Quick installation guide

1.2 Warranty and product liability conditions

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

2. Intended use

The NL-33 v.3 Auto Maxi heat seal machine is practical and universally applicable.
The machine is designed for applying transfers, emblems and other Thermopatch heat seal products.

▲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. Assembly and installation

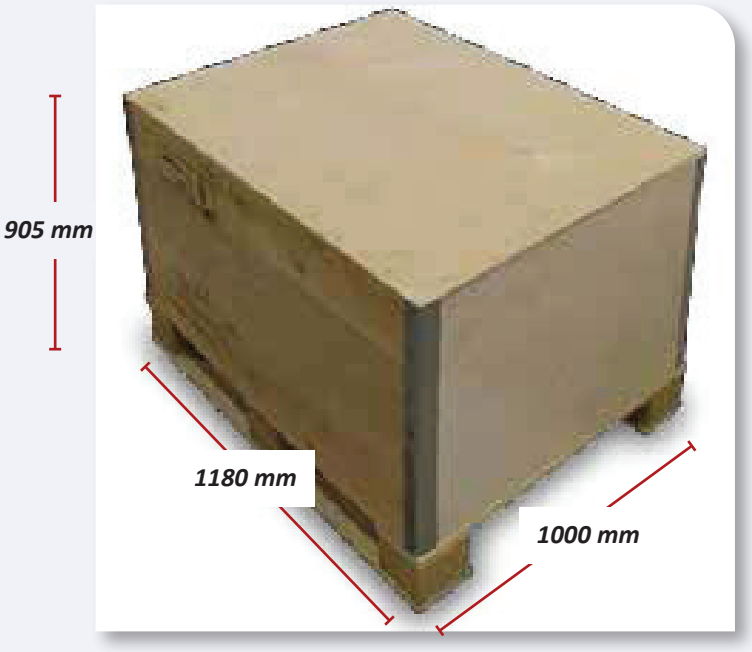
3.1 Assembly and installation

Unpacking

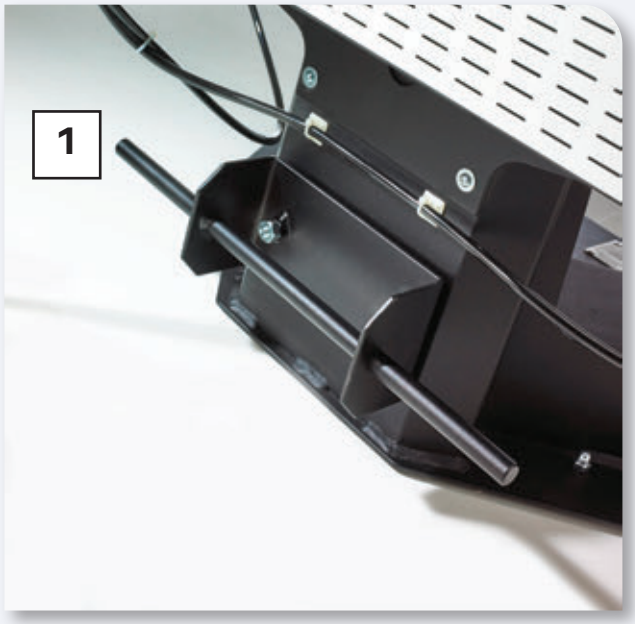
- Remove the straps and the wooden protective crate.
- Use a 10 mm spanner to remove the four screws with which the machine is screwed to the pallet.
- Remove the security screw using the Allen key 4 provided (See picture 2 on the next page).
- Center the press between both plates.

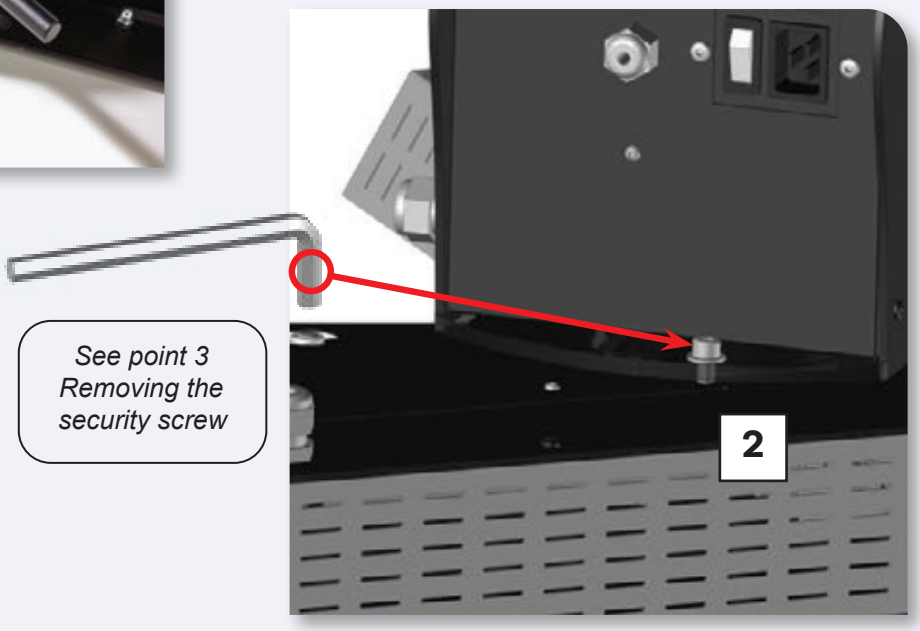
ATTENTION!

Do not transport the machine by lifting it by the plates!
This will cause damage to the machine.



- Place the lifting bars which are packed with the machine. Place the short bar on the back and the long bar on the front.
- NEVER LIFT THE MACHINE BY THE PLATES
- Lift the machine onto the worktable by means of the lifting bars that are mounted front and back (1).
- Place the sealing plates if they are not already mounted.
- Remove the transport bars from the machine.
- Connect the compressed air supply with a minimum pressure of 4 bar.
- Store the lifting bars for future use.





3.2 Electrical installation (1)

Take the NL-33 v.3 Auto Maxi out of the box by using the lifting bars and place the machine on a stable worktable in the vicinity of a grounded socket. The NL-33 v.3 Auto Maxi is connected to the power sup- ply (230 V alternating current) with the supplied power cable. The NL-33 v.3 Auto Maxi is grounded and equipped with two fuses type T 16 A. Place the power cord in the safety clip, which is mounted underneath the power switch on the back of the machine, see below instruction.

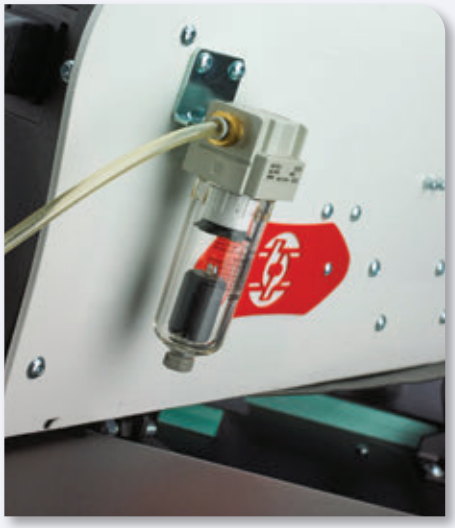
Place the cord in front of the clip

Close the clip

The power cord is safely mounted

3.3 Pneumatic installation (2)

To be able to work with the NL-33 v.3 Auto Maxi without problems, it is very important that you work with clean, dry air that is offered at a minimum of 4 bar up to a maximum of 8 ba. The supplied water separator / pressure regulator is only an additional protection for the machine. The user must ensure that the air pressure does not exceed 8 bar. Connect an air tube with a diameter of 6 mm to the locally provided air pressure system and connect it to the water separator / pressure regulator of the NL-33 v.3 Auto Maxi.



4. Operating instruction

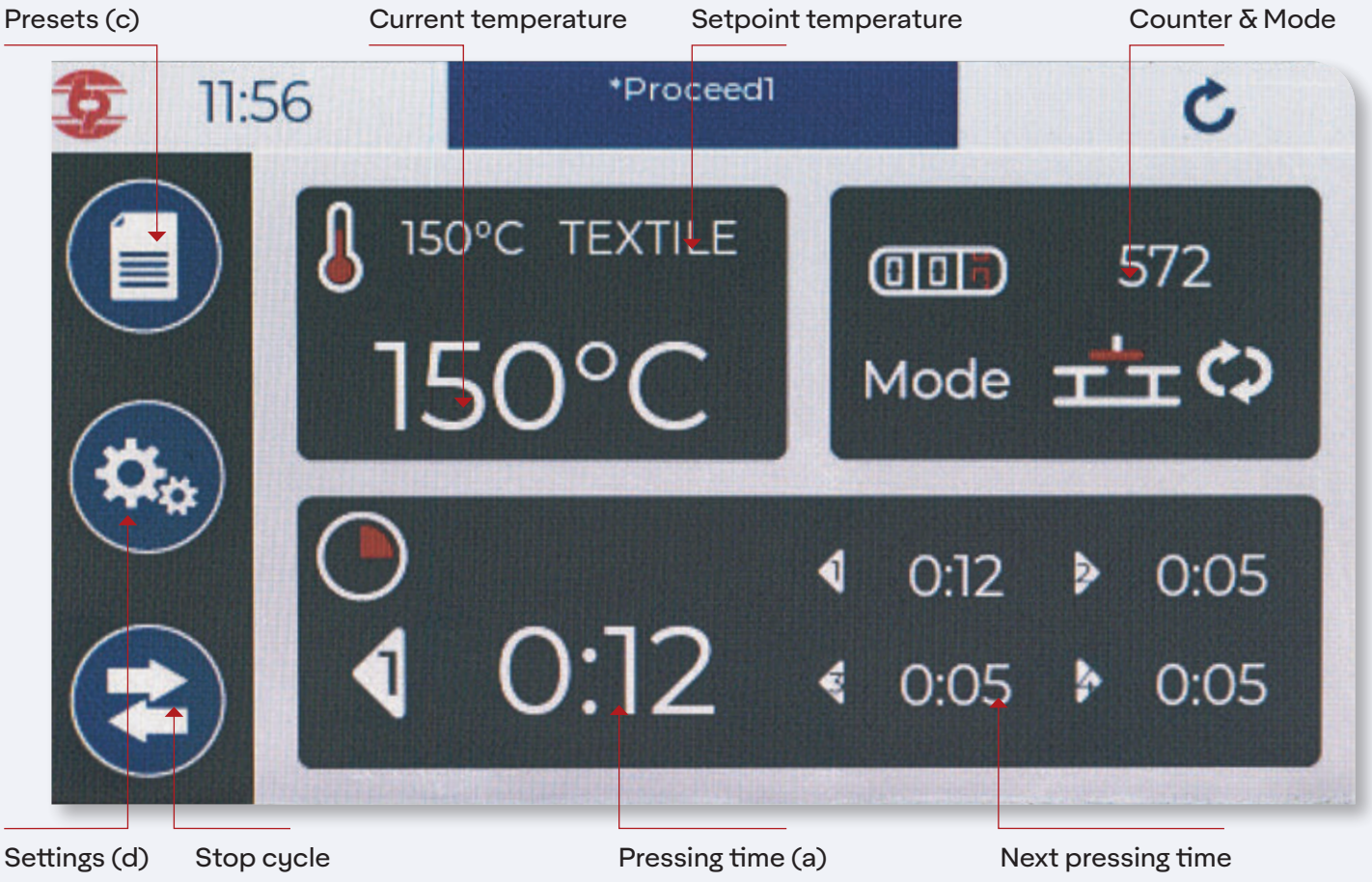
4.1 Operating the NL-33 v.3 Auto Maxi

- Switch on the press by pressing the power switch located at the rear.
- Adjust set point temperature (See 4.2.1.b).
- Adjust sealing time (See 4.2.1 a).
- Adjust the pressure (according to the type of transfer)
- Place the garment on the lower platen.
- Place the transfer.
- Once the heating platen 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 (see 4.2.3).

4.2 Operating the control panel

The temperature and time are shown on the display.

4.2.1 Sealing time and temperature settings



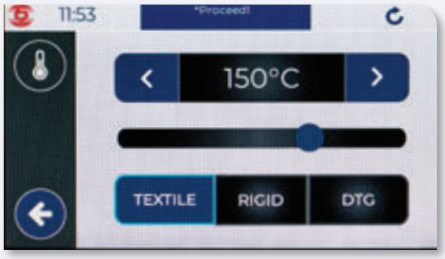
a) Pressing time

Press here to set the machine's pressing time.
Use the left and right arrow keys to increase and decrease the setting. You can also have 4 consecutive pressing times (cf. "settings (e)") on single-platen presses and up to 4 times for dual-platen presses.

You can also change this setting by pressing the time display and entering the required time from the touch pad (4 characters must be entered).

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 (b). 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 typing in a temperature below 100°C, enter a "0" first (e.g. 090°C).

You can also slide the blue cursor left and right with your finger to lower and raise the temperature respectively, and then adjust it using the arrows. Select the profile you wish to press (Textile, Rigid or DTG).

c) Item counter/Operating mode

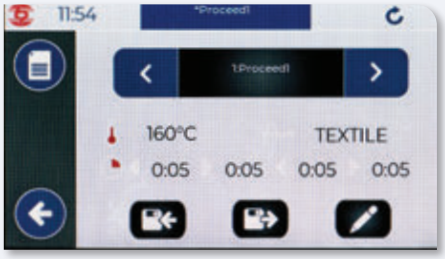
This menu shows how many items the machine has printed.
When you click on this icon, two counters are displayed.
See the table below.

You can also select the operating mode on Duplex models: single-platen, dual-platen actuated by button/pedal for each press stroke, and dual-platen auto mode.

The first counter shows the partial count and 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

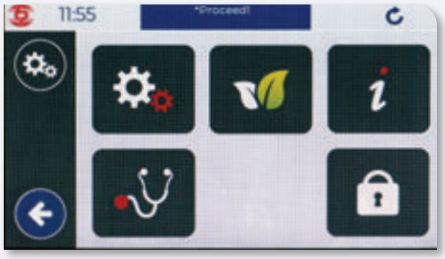


Pressing the “Presets” icon (d) brings up the menu shown opposite. Use the left and right arrows to select one of the 10 pre-configured recipes. To use (load) a recipe, press the floppy disk icon with the arrow pointing to the right. Once selected, press the arrow in the bottom left corner to return to the main menu.

To create or alter a recipe, you must first set the time and temperature from the main screen and then select a memory slot (1 to 10) from the recipe (d) screen. To rename a recipe, press the pencil icon.
Give your recipe 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.

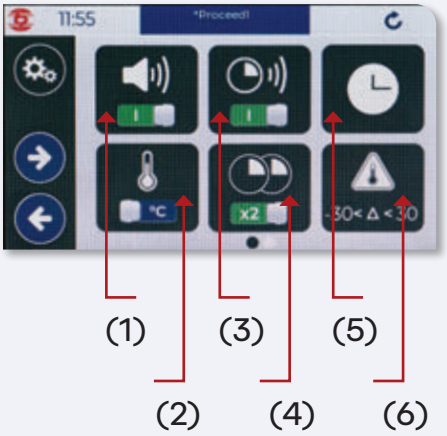
An asterisk (*) at the start of the name of the current recipe on the indication bar means that the current settings are not the same as the original settings for this recipe, and the settings that are currently being applied have not been saved to the recipe.

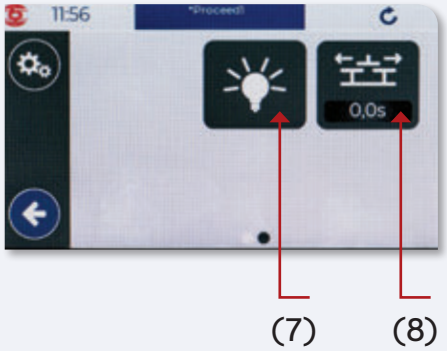
e) Settings



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

The gear wheel button lets you change the machine’s technical aspects.





1	Switch the sound on or off. Warning sounds will still be emitted if a fault occurs.
2	Choose between Celsius or Fahrenheit.
3	Switch the 2-second end-of-cycle notification signal on or off.
4	Choose 1 (OFF), 2 or 4 different timers.
5	Internal clock setting (date and time).
6	Operating temperature range setting.
7	Screen backlight setting.
8	Dwell time before platen switch (Auto mode).

	The green leaf icon is used to set energy-saving mode. The operator can use two energy-saving modes: • **Hibernate** → Hibernate start time → Heating restart time • **Sleep** → Sleep temperature (40°C (104°F) to 140°C (284°F)) → Idle time before sleep mode 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. Simply touch the screen or start a cycle to exit energy-saving modes that are currently running.

	The “i” at the top right provides key information about the software version.

	The diagnostic button brings up the machine status so you can see if there are currently any malfunctions.

	The padlock icon can only be accessed by an approved service technician.

4.2.2 Error messages

Message on display	Cause	Effect
Er1	Temperature sensor defective	Heating relais switches off
Err	Defect in the ambient temperature sensor of the electronics	Heating relais switches off
Col	Display connection alarm	Relais switches off

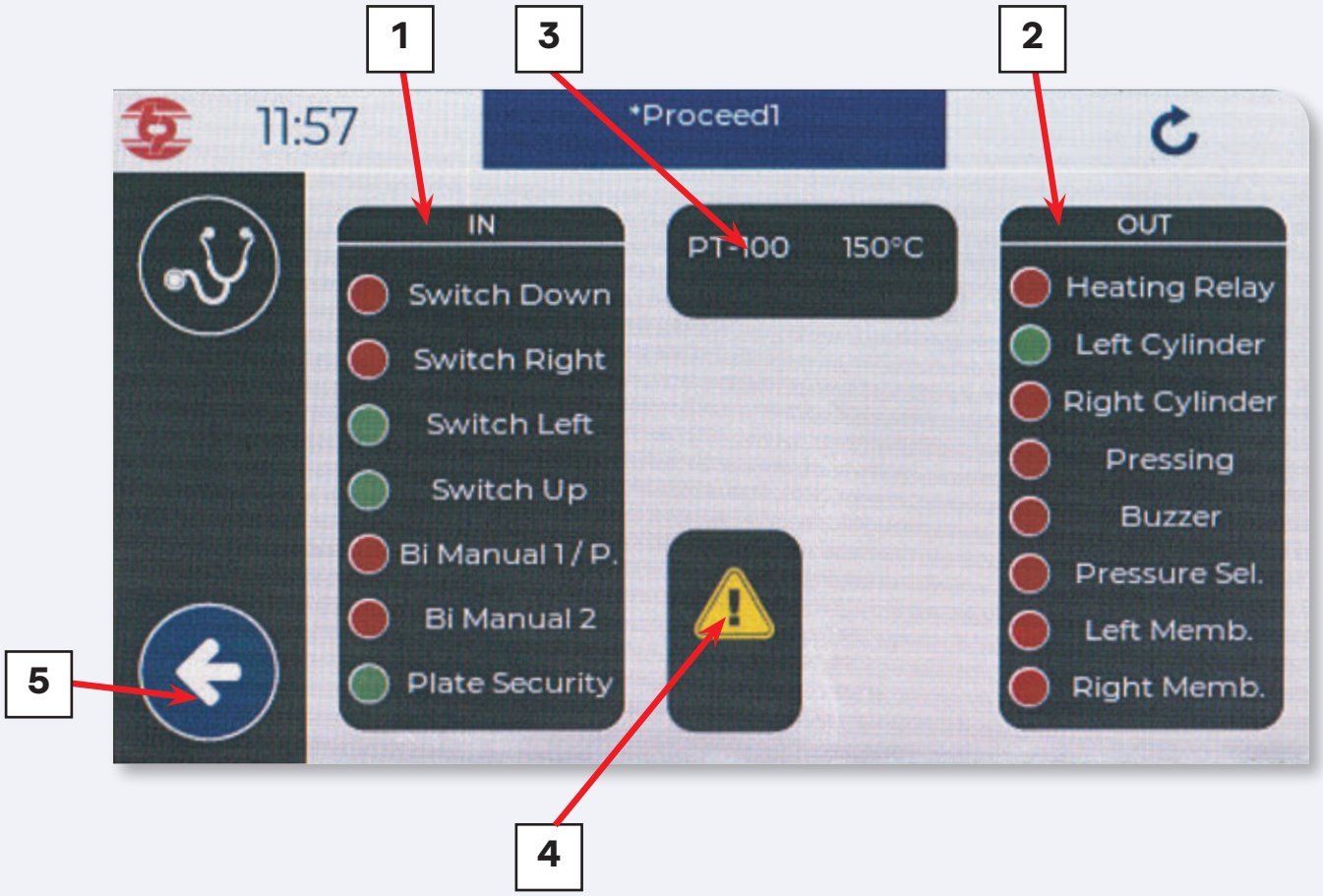
Each warning signal is accompanied by a sound signal that can be silenced by pressing a button.

5. Diagnosis

This screen is only for information on the status of the inputs and outputs of the PLC (Programmable Logic Controller).
On this screen all operating cycles are possible by pressing the footswitch and the green buttons.
To leave the screen, press

This screen is used for troubleshooting and evaluating sensor - and actuator states. The technical support service can ask the operator to display it during assistance by telephone, for example.

1. Inputs
2. Outputs
3. Temperature in ° Celsius or ° Fahrenheit
4. Alarm in progress: access summary page alarms
5. Back to previous page



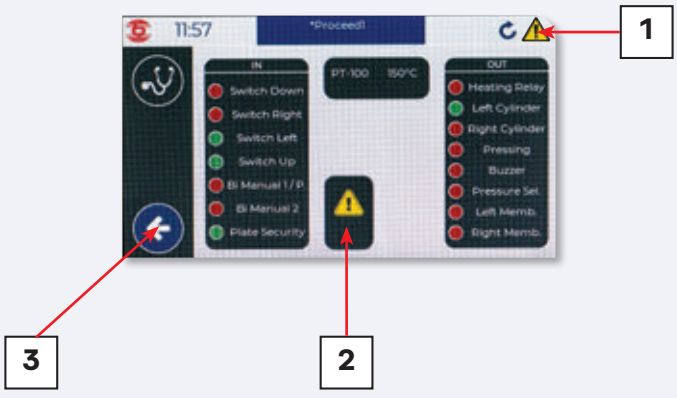
5.1 Alarms and warnings

If a fault is detected, the machine is in STOP (⚠) mode Following screen is diplayed:

Press the red area on the touchscreen to confirm the fault and the job page will be displayed.
If an incident is detected, the machine is put on hold (⚠).

Press the orange part on the touchscreen to confirm the fault and the job page will be dis-played.
If the incident is not confirmed, this screen will remain in place. To exit this screen, press the 'back' symbol, to see which incident is still present on the list of activated alarms and if shown, press the flashing triangle in this list.

1. Blinking indicator for active fault
2. Access to the Default page (flashin LED)
3. Back to MENU



5.2 Summary alarms and incidents

If the problem that caused the fault (faulty sensor, lack of air, temperature problem) is solved, the fault indicator (⚠) goes out automatically.

Removes unpaid defects that are no longer in progress (repair done).
If this support is not enough, stop and restart the machine (press the emergency stop).

5.2.1 List of alarms and incidents

Alarm 01: **Probe PT100**		Probe signal lost (sensor or cable). The heating control is instantly disabled.
Alarm 02: **Overheating.** **Temperature above 220°C**		Temperature reading above 230°C. The heating control is instantly disabled.
Alarm 03: **Platen safety system triggered**		Detection is immediate. The heating control and pressing operation are instantly disabled.
Alarm 06: **Upper pressing sensor not reached**		Signal not detected after 5 seconds. Caused by faulty sensor, lack of compressed air supply, jamming (mechanical, etc)
Alarm 07: **Lower pressing sensor not reached**		Signal not detected after 5 seconds. Caused by faulty sensor, lack of compressed air supply, jamming (mechanical, etc)
Alarm 08: **Right rotation sensor not reached**		Signal not detected after 5 seconds. Caused by faulty sensor, lack of compressed air supply, jamming (mechanical, etc)
Alarm 09: **Left rotation sensor not reached**		Signal not detected after 5 seconds. Result of sensor failure, lack of compressed air supply, mechanical lock, ...)
Alarm 10: **Communication error**		Communication lost between power board and screen board. Contact your stockist.
Alarm 13: **Temperature not reached**		Blocks first cycle start request. Permits cycle start at second request (forced start despite setpoint not being reached

6. Operating Cycle

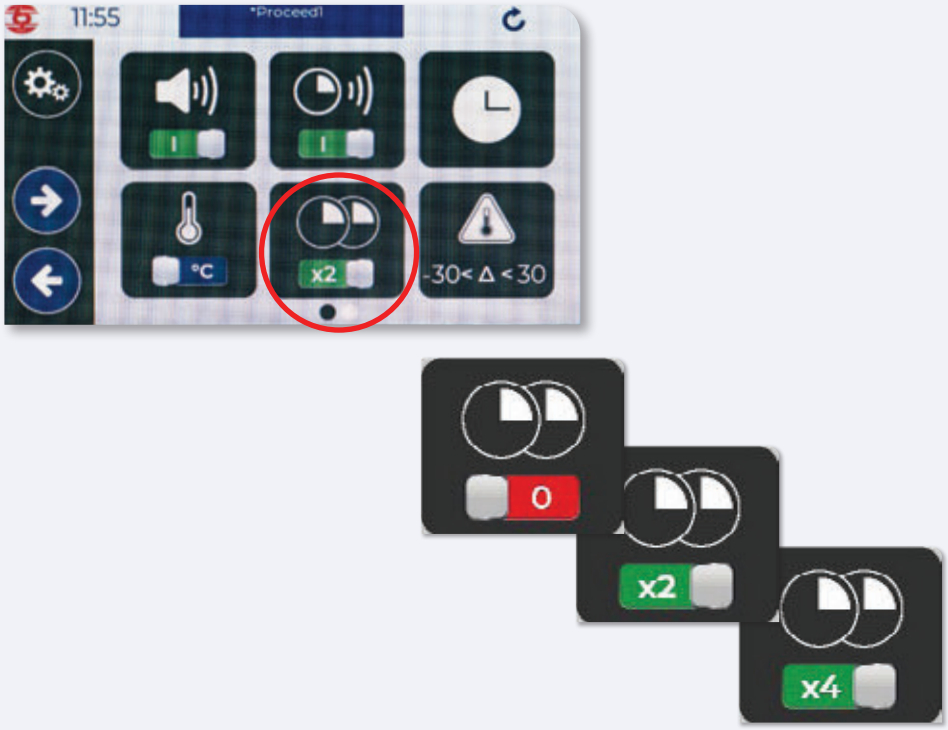
The NL-33 v.3 Auto Maxi can operate through 3 cycle variants:

Semi-automatic footswitch mode: after pressing the footswitch, the press arm changes position and performs a heat sealing cyle.

Single station mode: after pressing the footswitch, the press arm changes position, presses and returns to its starting point.

Automatic mode: after pressing the footswitch, the press arm changes its station and presses. At the end of the countdown of the "timer after pressing", it automatically changes position and presses again. This automatic cycle will continue until interrupted by pressing the STOP ( ) icon, pressing the footswitch or pressing the any one of the green manual control buttons.

6.1 Number of timers



It is possible to choose a single timer, two timers or four different configurable timers.
When you set 2 or 4 timers, the first timer can operate over the left or right tray.

- It will keep this position as long as one does not stop voluntarily or by the appearance of an alarm-event.
- At the next cycle start, the next timer will be the first.
- Each separate timer is not linked to the working position.

7. Overview of safety measures and warnings

7.1 Safety

The NL-33 v.3 Auto Maxi is equipped with all mandatory safety requirements that apply according to the European guidelines for machine safety.

The safety frame

The heating element of the NL-33 v.3 Auto Maxi is shielded with a safety rack.
This is to prevent the riskof pinching during heat sealing.

The emergency stop button

As required in the guidelines for machines, the machine is provided with an emergency stop button. Press in case of emergency!
Turn the knob counter-clockwise to unlock again and the machine will reset automatically.

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

▲WARNING!

Hot surface

Electric voltage

ATTENTION!

Make sure you are informed about the contents of this manual before starting to work with the NL-28. 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.

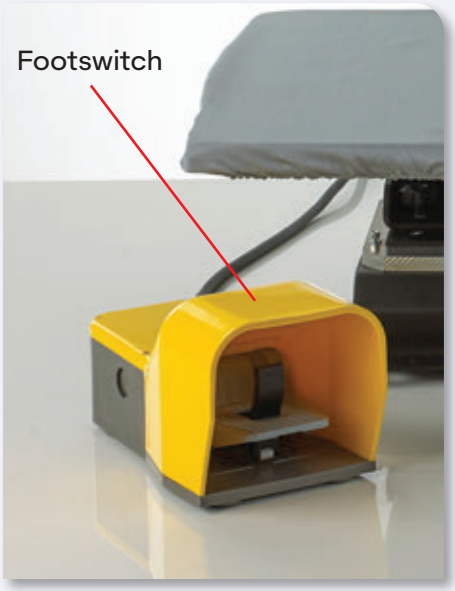
8. Technical specifications

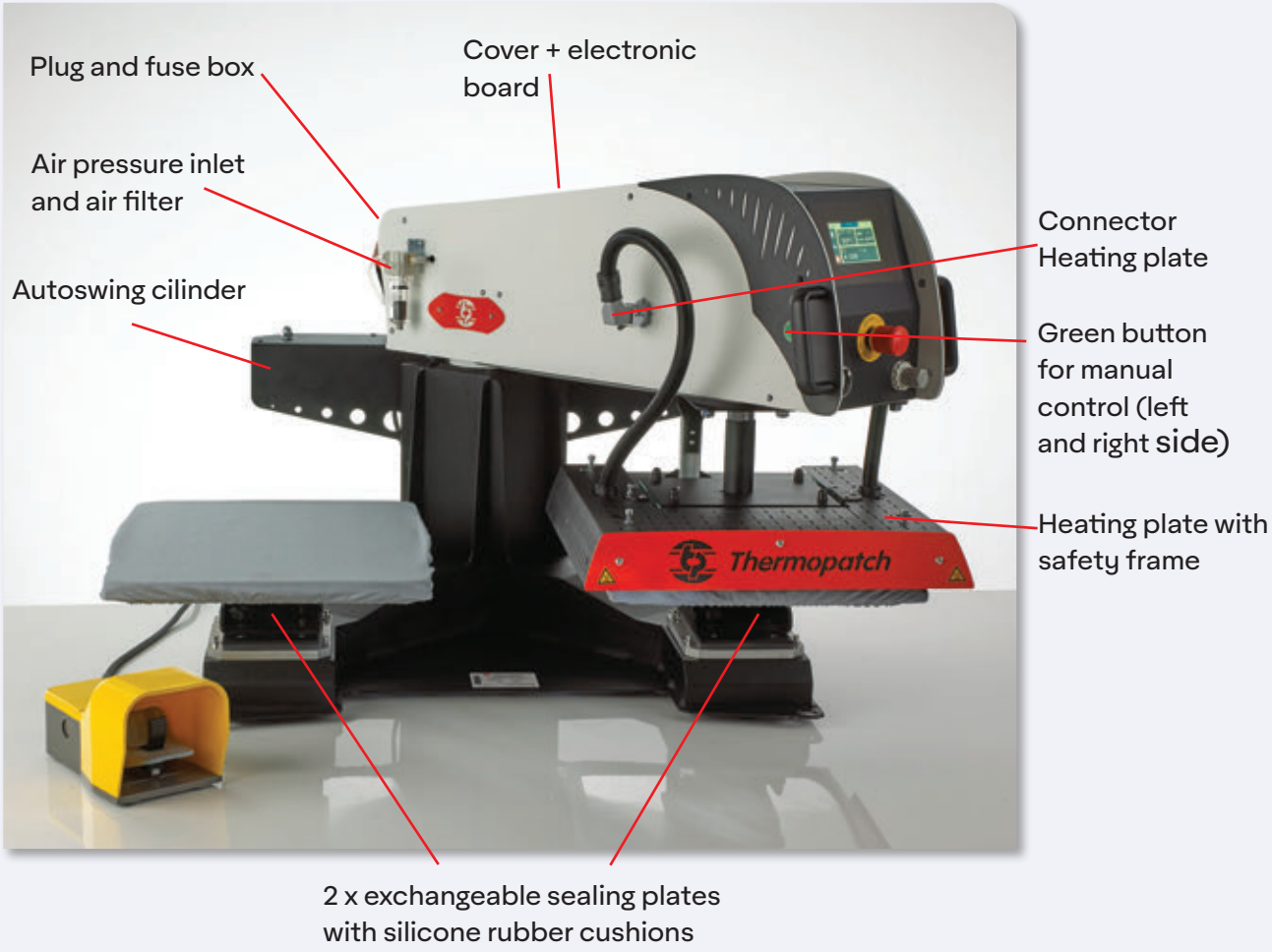
8.1 Specifications of the NL-33 v.3 Auto Maxi

Energy consumption	3200 Watt
Connection voltage	220-240 Volt 50/60 Hz
Temperature setting	0 - 220 °C
Temperature control accuracy	+/- 1%
Setting range	0 s - 59 min. 59 sec.
Height (open)	751 mm
Width	1071 mm
Depth (with connections)	1005 mm
Net weight	193 kg
Dimensions of the press cushions	400 x 500 mm
Fuses	2 x T 16A 250 V
A -weighted sound pressure	< 70 dB (A)
Compressed air consumption @ 4 bar	14,79 L/cycle
Compressed air consumption @ 6 bar	20,70 L/cycle
Compressed air consumption @ 8 bar	26,62 L/cycle
Pressure	2 - 7,5 bar
Maximum pressing force	925 DaN

8.2 Overview

Touchscreen
Emergency Stop button
Pressure setting
Manometer


Footswitch


Plug and fuse box
Cover + electronic board
Air pressure inlet and air filter
Autoswing cilinder
Connector Heating plate
Green button for manual control (left and right side)
Heating plate with safety frame
2 x exchangeable sealing plates with silicone rubber cushions
Thermopatch

9. Transport and storage

9.1 Transport

When the machine must be moved, Thermopatch recommends using the original packaging.

9.2 Storage

If the machine must be stored, Thermopatch recommends using the original packaging.
The machine must be stored off the ground, preferably on a pallet in dry conditions.

10. Maintenance

10.1 Maintenance

Depending on the work to be performed, the power supply or the air supply can be disconnected.
The air cylinder and other parts of the machine are virtually maintenance-free.
However, the condition is that clean and dry air is used for the heat seal machine. The applied water separator / pressure regulator is an extra safety.
Have your machine serviced by technically qualified personnel. Moisture and polluted air disturb the sustainable lubrication of the air cylinder.
It is recommended to have the following tools at hand:

- Phillips and flat screwdrivers
- A set of flat and pipe keys
- Allen key set
- A multimeter

ATTENTION!

Remove the plug from the wall socket BEFORE starting maintenance or repairs

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.

Air filter:
The air filter, or the water separator / pressure regulator, must be checked daily and, if necessary, emptied by opening the cap on the underside of the filter.

Replace the fuses
Make sure that the machine is switched off and that the power cord is unplugged! Replace the T16 A fuses at the back of the machine. Then plug in the power cord again and the machine is ready for use again.

For other parts, contact your supplier for their replacement or repair.

10.2 Replacement parts list

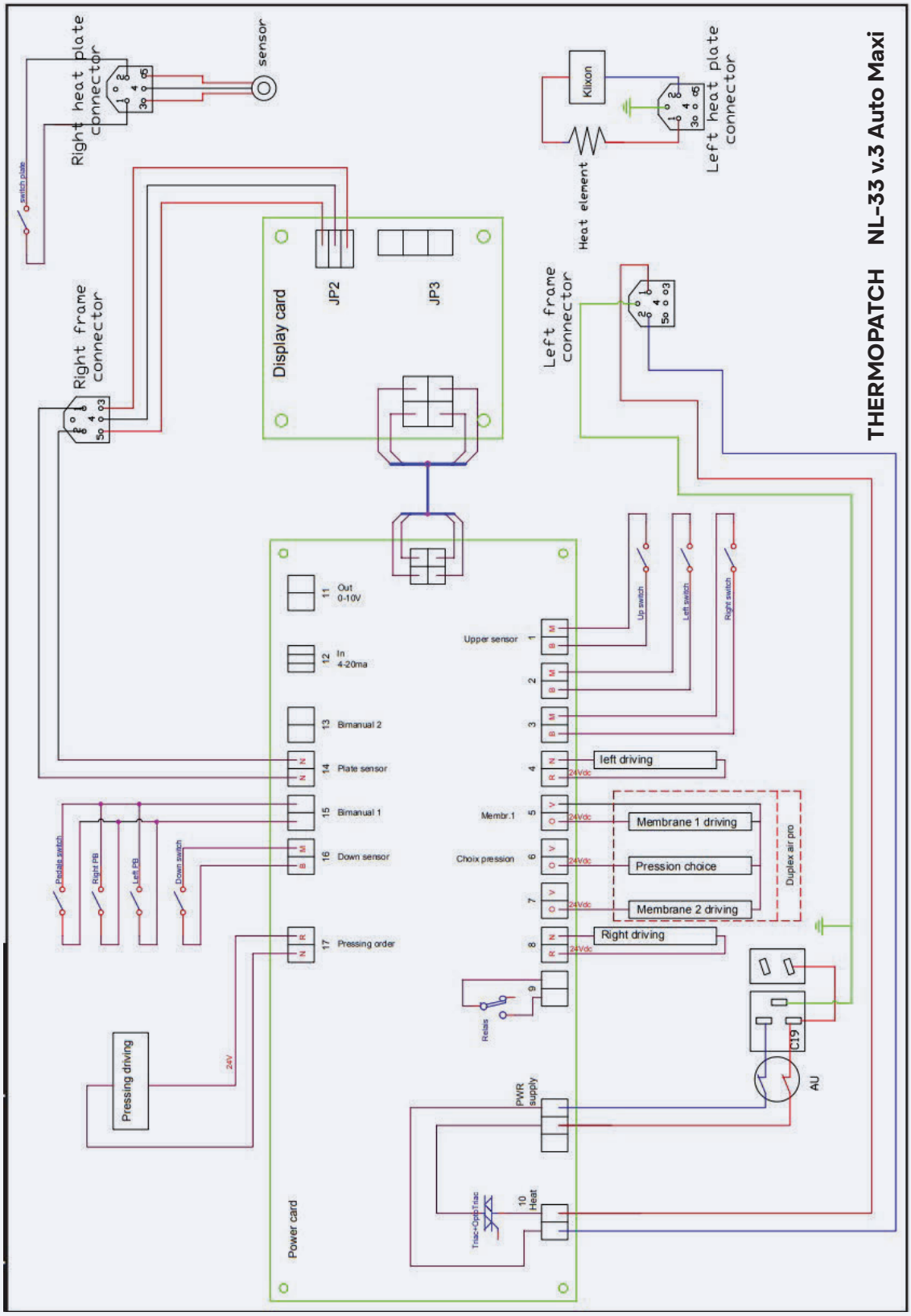
Reference	Description	Quantity
SPA33-018	Complete control power board	1
SPA33-019	Display card with 4'3 colour touch screen	1
SPA33-020	Link cable for display card and control board	1
SPA33-015	Mica heating element 400 x 500 mm 3200 W	1
SPA33-021	Pressing cilinder ø125 C100	1
SPA33-022	Swing cilinder ø40 C200	1
SPA3X-205	Filter	1
SPA3X-100-7	Sealing pad 9,53 mm 400 x 500 mm	2
SPA3X-006/E	Teflon sheet 400 x 500 mm	1
SPA3X-106-2	Nomex cover for standard lower plates	2
SPA3X-100/I	Aluminium base 400 x 500 mm for lower plates	2

10.3 Troubleshooting

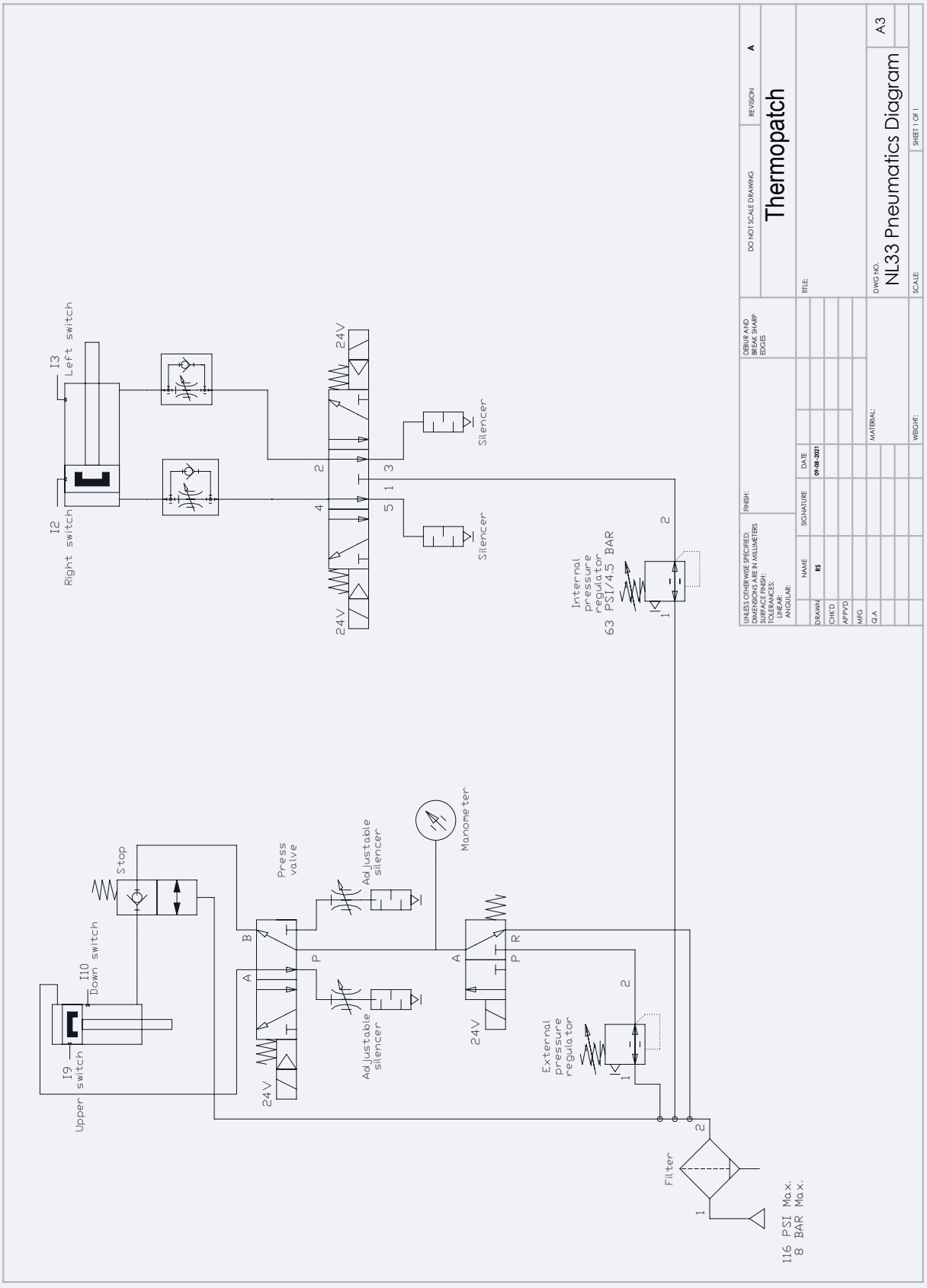
In this paragraph you will find the most common problems, causes and solutions.

Problem	Possible cause	Solution
The machine does not switch on	The plug is not connected The switch is not connected The emergency stop button is activated The display is faulty	Check your network and if the machine is connected to it. Set the main ON / OFF switch to 1. Turn the red knob to unlock the emergency stop button Check that the cables are not damaged (possible short circuit)
The machine is not heating up	Faulty heating element Problem with the main board Temperature is set too low	Check the connections and the condition of the wiring Remove the heating element Check the on-screen messages and refer to the section error messages, page 20-21
The heating element overheats	Problem with the temperature sensor	Check de messages on the LCD screen, page 20-21 Contact your supplier
The timer does not count down	Disabled or faulty cylinder sensor Problem with the electronic board	Check the connections Check the on-screen messages and refer to the section error messages, page 20-21
The press head does not lower	The control buttons are not working Leaking cylinder Too low pressure on air supply	Check the connections Check the seals and all connections, contact your supplier Check the valve couplings, contact your supplier for replacement Check that the air supplied is above 3 bar
The press head does not come up	Faulty solenoid control valve Leaking cylinder	Check the valve couplings, contact your supplier for replacement Check the seals and all connections, contact your supplier
The press head stays down after pressing	The timer is not counting down No compressed air provided	See above

10.4 Electrical wiring diagram



10.5 Pneumatics diagram



11. 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.

ATTENTION!

Always dispose according to current and locally applied guidelines for health and safety and disposal requirements.

12. Declaration of Conformity CE and UKCA

Wij,
Thermopatch BV
Draaibrugweg 14
1332 Almere
Nederland

herewith declare, on our own responsibility, that the machinery:
Thermopatch NL-33 v.3 Auto Maxi pneumatic heat seal machine which this declaration refers to, is in accordance with the conditions of the following Directive(s):

2014/30/EU (EMC-richtlijn)
2006/42/EU (machinerichtlijn)

Nederland, Almere, 01/02/2018

Stephen Huyton
Business & Financial Director Thermopatch EMEA

We,
Thermopatch BV
Draaibrugweg 14
1332 Almere
Netherlands

UK CA

declare that the DoC is issued under our sole responsibility and belongs to the following product: Thermopatch NL-33 v.3 Auto Maxi pneumatic heat seal machine, 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

Stephen Huyton
Business & Financial Director Thermopatch EMEA

13. Disclaimer

The information contained in these documents is confidential, privileged and only for the information of the intended recipient and may not be used, published or redistributed without the prior written consent of Thermopatch BV.
The opinions expressed are in good faith and whilst every care has been taken in preparing these documents, Thermopatch BV makes no representations and gives no warranties of whatever nature in respect to these documents, including but not limited to the accuracy or completeness of any information, facts and/or opinions contained therein.
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.

Thermopatch BV

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