

Instructions Manual

Wax melter with water heated grating



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**The manual covers following devices
(codes):**

W4081

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Wax melter with water heated grating 400V model

Before first use read the manual carefully and follow the instructions contained therein. The manufacturer is not liable for damage caused by equipment used inappropriately or by incorrect handling.

1. General safety instructions



1.1. Electrical safety

- Make sure that the nominal voltage of the device and the power source are compatible. Connect to a grounded socket only.
- The electrical supply system must be fitted with a residual-current circuit breaker with rated tripping current not higher than 30mA. Performance of the circuit breaker should be checked periodically
- Periodically check the condition of the power cord. Replace the power cord if damaged. Replacing the power cord can only be performed by the manufacturer or by qualified personnel.
Do not use the device if the power cord is damaged!
- In the event of damage to the device, to avoid any health and safety risks, repairs should be carried out only by qualified personnel.
- Do not pull the power cord.
Keep the power cord away from heat sources and sharp edges to ensure its good condition.



1.2. Operation safety

- The device is not intended for use by persons (including children) with limited physical, sensory or mental abilities, or by inexperienced users, unless under supervision or with instructions given by an accountable party.
- Protect the control unit and any electrical component against moisture (also during storage).
- Never use this device near flammable materials.
- Never carry out any maintenance or repairs during operation or if the device is plugged in!
- For indoor use only. The device is not suitable for outdoor use.

Warning!!! Hot!!!

2. Product description

Make sure the device is filled with liquid before starting (Fig.1)

Fig.1 Liquid level indicator



The device is designed for the recovery of wax and honey from the hive frames/combs. It consists of an external tank and a grating which are filled with a water-glycol mixture (5:1).

The recommended operating temperature for the tank shell is 40-43°C, and for the grating 80-90°C

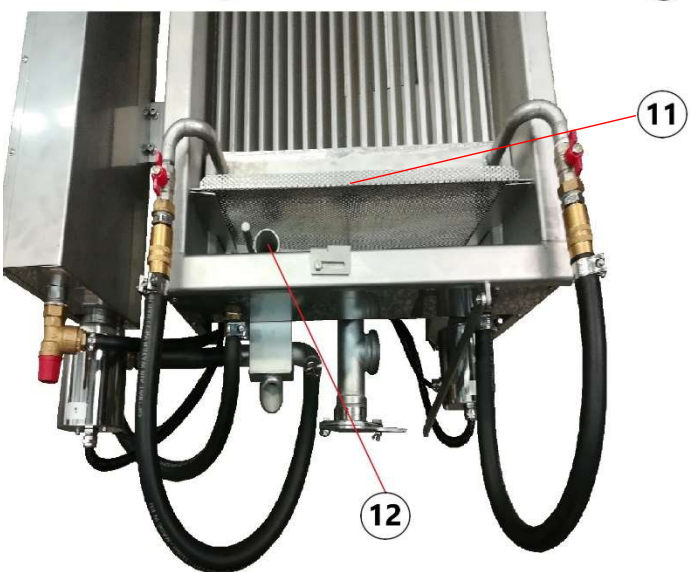
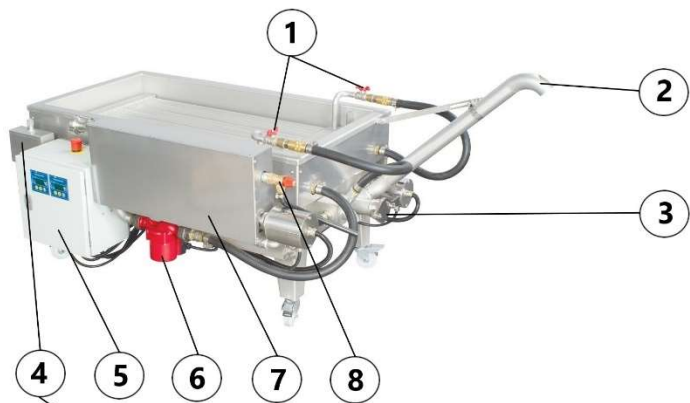
2.1. Technical specifications

- acid resistant stainless steel body
- power supply – 400V/32A
- tank heater – 4,5 kW
- grating heater – 7,5 kW
- tank's water jacket temperature range: 30~45°C
- grating temperature range 30~90°C
- external dimensions:
L 1800 x W 880 x H 1000mm.
- weight: 145 kg.

2.2. Design

Elements:

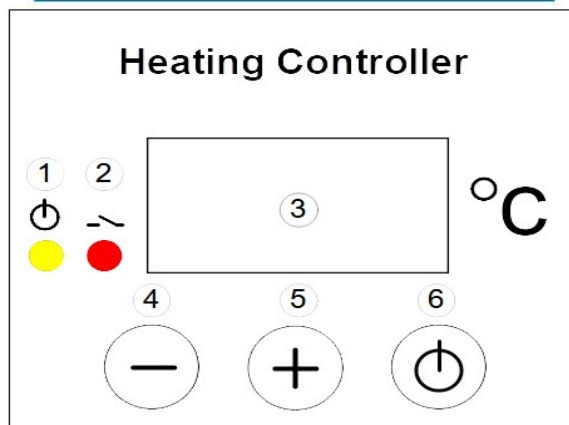
- grating liquid circulation valves
- honey drain pipe
- 6/4" flap valve
- tank's water jacket reservoir
- controller
- liquid circulation pump „9”
- grating's water reservoir with the heater
- safety valve
- heated grating
- wax drain pipe
- perforated (3mm) insert for cleaning wax and honey
- wax level setting pipe



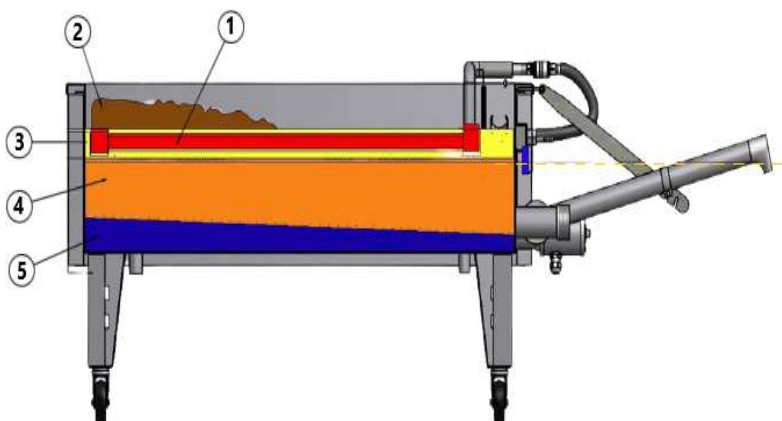
- 1 - melting grating with hot liquid of 80-90°C
- 2 - wax cappings
- 3 - a level of wax, which in the melter is determined by the tube "12" in section 2.2. and then flows out with the tube "10" in section 2.2.
- 4 - the level of honey, which is drained down the pipe "2" set at an appropriate height
- 5 - the water jacket maintaining the temperature of honey at 40-43°C

3. Temperature controller

The device is equipped with the HC-01 temperature controller



2.3. Operation principles



3.1. Setting the temperature

1. Ensure that the controller switched off before plugging the power cord in.
2. The main switch on the control panel should be in position "0"
3. When the unit is plugged on Switch (0/1) on the control panel is switched from position "0" to position "1"
4. Set up the controller to suit your specific requirements
5. Longer press and hold the button and then release it to activate the operating time setting mode (indicated by the displayed "Pro." message on the screen). In this mode, use the "+" and "-" buttons to define the time after which the controller will automatically switch off, and. enter the OFF state. Press the „ON/OFF” button to exit the OFF state.

3.2. Starting work with the controller

1 – state indicator

If the indicator light is on – the temperature regulator is active. If the indicator light is off – the temperature regulator is inactive (the controller works as a thermometer). If the indicator blinking – the temperature regulator is on and the pre-heating process is in progress

2 – heating relay status

If the indicator light is on – the relay is engaged (heating on), if the indicator is not lit – the relay is disengaged (heating off)

3 – display

Operation mode – default mode, automatically selected when the controller is powered on. The display indicates the measured temperature. The indications are given in °C.

Setting mode – selected by pressing the + or – button. The display indicates the set temperature. The value is displayed in °C. The value displayed flashes and after a while returns to the measured temperature display mode.

Run time setting mode (Pro.) - activated by pressing the "ON/OFF" button. The display indicates the operating time, counting from the moment of switching on, after which the thermostat will automatically switch off. The indication is given in hours.

Display brightness setting mode (d.br.) - activated by holding down the "ON/OFF" button. The display, with all segments lit, shows the currently set brightness. Reaching the setting limit is signalled by flashing.

The following modes are available after entering the appropriate code.

Calibration mode (CAL.) code L-1 – activated by holding down the "ON/OFF" button. The display shows the calibrated temperature (temperature measured taking calibration into account). The indication is given in °C.

Pre-heating time setting mode (P.tl.) code L-2 – activated by holding down the "ON/OFF" button. The display indicates the operating time, counting from the moment of switching on, for which the controller performs the preheating, maintaining the preheating temperature programmed by the manufacturer. The message "OFF" indicates that the preheating function is deactivated. The indication is given in minutes. If preheating is activated, the controller will display "HC2" at start-up.

Preheat temperature setting mode (P.tE.) code L-3 – activated by holding down the "ON/OFF". The display shows the preheating set temperature value. P... indicated in °C.

Preset temperature limit setting mode (L.t.h.) code L-4 – activated by holding down the "ON/OFF" button. The display shows the maximum value of the preset temperature that can be set. The L... indication is given in °C.

4 – button "-" decrease value

Operating mode – Pressing the button will decrease the set temperature value. During pre-heating the possibility of changing the set temperature is blocked.

Run time setting mode – pressing the button will decrease the time after which the thermostat automatically switches off.

Display brightness setting mode – pressing the button will decrease the brightness of the display.

Calibration mode – pressing the button will decrease the value of the indicated temperature, and thus calibrating the

measurement.

Pre-heating time setting mode – pressing the button will decrease the time after which the thermostat automatically switches from the preheating phase to the heating phase.

Preheat temperature setting mode – pressing the button will decrease the value of the desired temperature to be maintained during preheating.

Preset temperature limit setting mode – pressing the button will decrease the value of the maximum preset temperature value that can be set.

5 - "+" increase value

Operating mode – Pressing the button will increase the set temperature value. During pre-heating the possibility of changing the set temperature is blocked.

Run time setting mode – pressing the button will increase the time after which the thermostat will automatically switch off.

Display brightness setting mode – pressing the button will increase the brightness of the display.

Calibration mode – pressing the button will increase the value of the indicated temperature and thus calibrating the measurement.

Pre-heating time setting mode – pressing the button will increase the time after which the thermostat automatically switches from the preheating phase to the heating phase.

Preheat temperature setting mode – pressing the button will increase the preset temperature to be maintained during preheating.

Preset temperature limit setting mode – pressing the button will increase the value of the maximum preset temperature value that can be set

6 - "ON/OFF" button

Briefly pressing the button alternately turns the regulator on (ON) and off (OFF). In the OFF state, the regulator acts as a thermometer. In the ON state, the controller will turn the heater control output on and off to maintain the temperature set by the user.

Longer pressing and holding the button will activate the run time setting mode, indicated by the displayed message (Pro.). In this mode, using the "+" and "-" buttons, the user can define the time after which the controller will automatically switch off, i.e. go into the OFF state. Exiting this mode and confirming the settings is done by short pressing the "ON/OFF" button.

Longer pressing and holding the button starts the display brightness setting mode – indicated by the message (d.br.). In this mode, using the "+" and "-" buttons, the user can set the brightness of the display segments. Exiting this mode and confirming the settings is done by short pressing the "ON/OFF" button.

Longer pressing and holding the button activates the calibration mode which is indicated by a displayed message (CAL.). In this mode, using the "+" and "-" buttons, the user can adjust the temperature readings to the actual temperature value. Exiting this mode and confirming the calibration settings is done by short pressing the "ON/OFF" button.

Note – the controllers supplied are already calibrated.

Longer pressing and holding the button will activate the mode of preheating time setting indicated by the displayed message (P.tl.). In this mode, using the "+" and "-" buttons, the user can define the time after which the controller will automatically switch from the preheating phase to the actual heating phase. Switching off the preheating is indicated with

"OFF" message. To leave this mode and confirm the settings press the "ON/OFF" button.

Longer pressing and holding the button will start the mode of setting the preheating temperature indicated by the displayed message (P.tE.). In this mode, using the "+" and "-" buttons, the user can define the desired temperature to be maintained during pre-heating. To exit this mode and confirm the settings press the "ON/OFF" button.

Longer pressing and holding the button will activate the mode of setting the preset temperature limit, signalled by the displayed message (L.t.h.). In this mode, using the "+" and "-" buttons, the user can set the upper limit of the desired temperature setting. To exit this mode and confirm the settings press the "ON/OFF" button.

Note – all settings and operating status (on or off) of the controller are stored in the controller's memory.

Access codes

During start-up of the controller (displayed controller's name, software version, settings values) press and hold the "-" and "+" buttons. After displaying "- - -" buttons may be released and the appropriate code may be entered. The code is confirmed with the "ON/OFF" button.

CODE	ACCESS LEVEL
Random	L-0
157	L-1
314	L-2
628	L-3
942	L-4

Run time setting mode (code L-0)

Display brightness setting mode (code L-0)

Calibration mode (code L-1)

Pre-heating time setting mode (code L-2)

Preheat temperature setting mode (code L-3)

Preset temperature limit setting mode (code L-4)

3.3. Error codes

The HC1 controller features advanced error detection algorithms. The detection of any error triggers an emergency stop action and brings up the error report screen. The error report screen is displayed continuously. It is therefore necessary to turn off the power, remove the source of the error and turn the controller back on.

ERROR CODE	DESCRIPTION
(E-0) CPU STATUS	Internal controller fault
(E-3) T < Tmin	T1 measured temperature too low.
(E-4) T > Tmax	T1 measured temperature too high.
(E-5) button -	pressed/faulty „-“ button
(E-6) button +	pressed/faulty „+“ button
(E-7) button ON/OFF	pressed/faulty „ON/OFF“ button

3.4. Controller specifications

CONTROLLER SPECIFICATIONS (FOR FW: 0.1 VERSION)

Temperature range*:	-50°C ... +250°C
Temperature read-out resolution:	0,1°C
Measurement accuracy:	± 1,5 °C
Minimum set temperature value:	30°C
Maximum set temperature value:	Range: 45°C ... 95°C
Run time setting range:	1 ... 96 hours
Preheating temperature range:	30°C ... 40°C
Preheating time range:	0 ... 60 minutes
Adjustment mode:	Two-state
Electrical parameters	
Control:	12VDC ±10%, Min. 200mA
PSU rating:	100...240VAC 50/60Hz
Temperature connection:	PT1000
Output type:	Relay, connector "NO"
Max output load:	AC1 – 9A 230V
Max heater power:	2000W 230VAC
Output durability	> 3x10 ⁴ for 10A 230VAC
Max engagement frequency AC1	600 cycles/h
Work conditions requirements	
Controller's work temperatures:	0°C...55°C
Storage temperature:	0°C...60°C
Humidity:	Max 65% at 25 °C

4. Storage

Clean and dry the unit thoroughly after use.

If the device has been moved from a cold room to a room with a higher temperature, before switching on wait until it reaches the ambient temperature and all condensation water evaporates.

Store the device in a dry and frost-free room.

Do not use the device when the ambient temperature is below 5°C.

An additional technical check should be carried out periodically, and if any defects are found, please contact the manufacturer.

5. Cleaning and maintenance



IMPORTANT!!!

Unplug the device before commencing any maintenance or cleaning procedures!

Before first use and after finishing work the equipment must be thoroughly cleaned and dried.

Clean with hot water using detergents allowed in food industry using a soft cloth.

While cleaning ensure the safety of all electrical components like motors and controller panels.

After cleaning rinse the device and allow it to dry thoroughly.

Store the device in a dry and frost-free room.

Do not use any chemical agents to protect the devices elements.

6. Waste disposal and environmental protection

The used product must be disposed in accordance with the local regulations. Return the device to a collection point from where it can be submitted for environmentally compatible recycling.

The consumer has the right to return used equipment directly to the manufacturer's distribution network, free of charge, while replacing it with a new unit as long as the used device is of the same kind and same application as the newly purchased device.

7. Warranty

The product purchased from the Lyson Company is covered by a manufacturer's warranty. The warranty period is 24 months from the date of purchase.

All purchased products come with receipts or VAT invoices.

Warranty details at:

www.lyson.com.pl