HONEY CREAMING
AND DECRYSTILIZATION MACHINE
With C-05 automatic controller 230V

LYSON

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The following manual encompasses the devices bearing the following codes:

POWER SUPPLY 230V:

W20087_Z, W20087C_Z, W20085_Z, W20086_Z, W20089_Z

Manual

1.General safety principles for using the creaming machine

Read this user's manual before use and follow the given instructions. Producer cannot be held responsible for any damages caused by improper use.

1.1. Electrical safety

a) The device must be plugged into the grounded socket with a voltage specified on the rating label.
b) Electricity supply must be fitted with a residual current device with a rated tripping current not exceeding 30mA .The operation of the over-current protection needs to be checked periodically
c) Check the condition of the cord periodically.

If the supply cord is damaged and needs to be replaced, this function should be performed at the guarantor or by special service or by a qualified person in order to avoid danger. Do not use the device if the power cord is damaged.

d) In case of damage, in order to avoid hazard, repairs can only be carried out by a special service or a qualified person.
e) Pulling the cord is strictly forbidden. Keep the cord away from sources of heat, sharp edges and ensure it is in good condition

1.2. Usage safety

a) This device is not designed to be used by persons (including children) with limited physical, sensual or psychological abilities or persons who do not have experience or knowledge of the device unless it is done under supervision and according to the user manual passed by persons responsible for their safety.
b) Keep away from children!
c) Place on dry surfaces only!
d) Prior to commencing work, make sure that the „STOP" emergency button is switched off. It should be turned so that it pops out.
e) Pressing the "EMERGENCY STOP" button will result in the immediate stop of the creaming machine.
f) The creaming machine cover should be closed while mixing.
g) Do not move or adjust the creaming machine whilst in use.
h) Protect your engine and controller against moisture (also while storing)
i) Do not use this unit near flammable materials
j) It is forbidden to carry out any maintenance during operation.
k) All covers must be securely affixed to the device.
l) Should any hazard arise, press the emergency button immediately. Once the danger has been eliminated, the device can be restarted.
m) For indoor use only! Not to be used outdoors!

Repairing while in motion prohibited!

Removing covers while in use strictly forbidden!

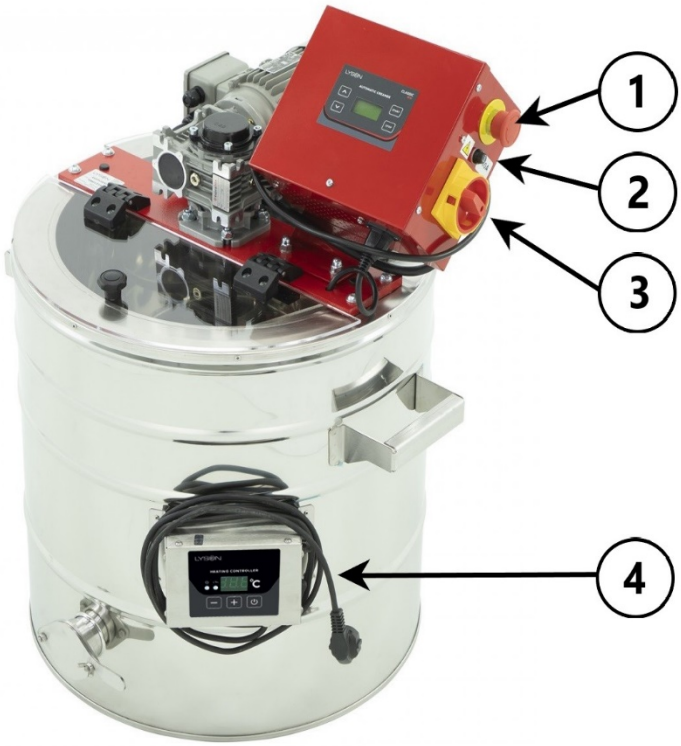
2. Characteristics of creaming machine with heating mantle

IMPORTANT!

Prior to first use, clean and rinse the device thoroughly. Wash the device with hot water and small amount of detergent (food contact certified). The device should be washed with an anti-static cloth. Protect the electronic components from getting wet. Rinse thoroughly with clean water after washing and leave to dry. Having completed the creaming process, wash and dry the device.

2.1.CREAMING MACHINE OPERATION

Before plugging the device in, make sure that the controlling unit is disabled. The (0/1) switch on the control panel should be set to "0".
After plugging (0/1), switch it from the "0" to "1" position.



1. safety switch
2. fuse
3. main switch
4. temperature regulator

3. C-05 CREAMING MACHINE DRIVER

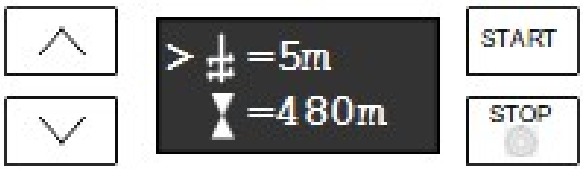
After switching the device on, the controller displays information about the model name and the software version. After a few seconds the display shows total working time.

3.1. Functions and programming

The controller allows offers an option to program a custom work cycle which consists of parameters like the total creaming time, work intervals, mixing speed, and additionally, it is possible to adjust the display's contrast.

Setting creaming process time intervals

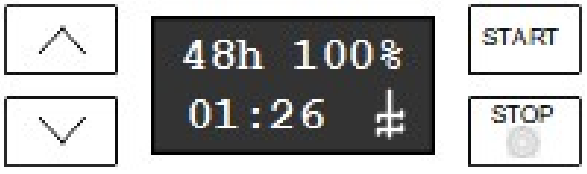
Close the cover of the creamer, press the STOP button and keep it pressed for more than 5 seconds to enter the settings mode, then release the STOP button. The display shows two parameters of work intervals: mixing time (upper row) and standstill time (lower row).



Use the up/down button to select the parameter to be modified, and confirm the selection with the START button, modify the parameter's value with the up/down button. Press the STOP button couple of times to exit the settings mode.

Setting mixing speed

Close the cover of the creaming machine, press the START button, to start the work cycle. Adjust the mixer speed using the up / down buttons.



Starting and stopping

Close the cover of the creaming machine, press the START button to start the work cycle, or the STOP button to stop the cycle. Pressing the STOP button again after stopping the creaming cycle will reset the time elapsed since the start of the creaming cycle.

The value of the set total work cycle time is displayed in the upper left section of the display. The elapsed time since the cycle start is displayed in the lower left section of the display.
The value of the mixing speed is displayed alternately with the word STOP, in the upper right section of the display. The mixer symbol in the lower right section of the display indicates the current state of the mixer (active/inactive).

Automatic stop function (creaming process finish or open cover)

- **Automatic stopping**

When the cycle's preset time has elapsed, the device automatically switches off. The display shows the preset time and the time that elapsed during the execution of the cycle. Both values should be identical, which means that a full cycle has been performed.

- **Stopping by opening the cover**

Opening the cover of the creaming machine interrupts the creaming cycle. If at the moment of opening the cover the mixer of the machine is in motion it gets automatically stopped and the display shows the time elapsed since the creaming cycle start. Closing the lid resumes the creaming cycle.

If the STOP button is pressed after opening the cover open, the creaming cycle gets stopped and reset (in this case the creaming process will not restart automatically after closing the cover back).
The elapsed time value is reset to zero.

Setting display contrast

In order to adjust the contrast of the controller's display:
- set the creaming time to **1h,**
- press and hold the **STOP button, and the up or down button.**

3.2. Error codes

In the event of detecting any errors or malfunctions of the controller the message "ERR STOP" is displayed along with the error code. The controller can be restarted again only after: switching off the power supply, resolving the error's cause and switching the power supply back on again.

ERROR CODES:

1 – controller's internal error
2 – pressed / stuck **DOWN** button
3 – pressed / stuck **UP** button
4 – pressed / stuck **START** button
5 – pressed / stuck **STOP** button
6 – inverter's error or inverter connection error

3.3. Technical specifications

Mixer's work time adjustment range: 5–15 min
Mixer's standstill time adjustment range: 45–480 min
Total work cycle time adjustment range: 1–99 hrs
Mixer's speed adjustment range:50–100 % (18–36 RPM)
Power supply voltage: 230V

4. HONEY CREAMING:

Fresh honey is thick and clear. After some time it gets crystallised naturally.
The proper crystallization temperature is 16-18 ° C.
At higher temperatures, the crystallization process occurs more slowly and crystals are larger.
Heating the honey up to **40ºC** and maintaining it at that level for several days causes the transition of honey from solid (crystallized) to liquid.

Creaming is a quick and easy method of creamed honey's production. It is done by adding the crystallised honey onto the fresh, clear and fluid one, in order to begin a controlled, small-grained (creamed) crystallisation.
The creaming process should be performed repeatedly on the following basis: stirring – 15 minutes ; standstill – 1 hour
The creaming device has a special mechanical stirrer, which allows you to carry out the process of recrystallization, after which honey obtains chocolate cream-like consistency.
This process involves a cyclic aeration and intensive honey stirring for a few nights, until the desired consistency is obtained. That consistency is maintained over many months if the honey is kept at the same, appropriate level of temperature.

Mixing is performed several times a day for about 10-15 minutes.

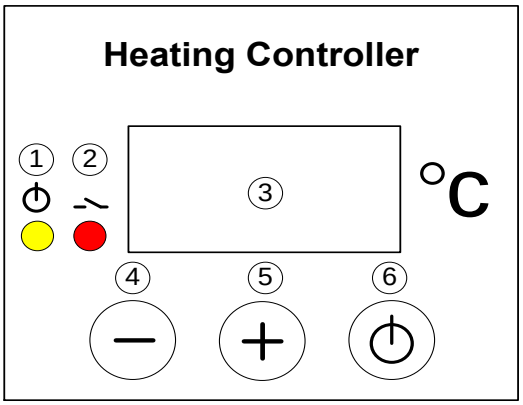
"Creaming" is to produce many small nucleation and prevent the growth of existing crystals of honey.
It is mechanical "grinding" of honey crystals.

IMPORTANT!

This process should be performed gradually, that means one should not fill the entire device with honey, but to dose small amounts of honey regularly.

5.TEMPERATURE CONTROLLER MHC-01

The device has been equipped with MHC-01 temperature regulator.



5.1. Setting up the controller

1. Prior to plugging in the device to the mains, one must make sure that the controller is switched off.
2. Switch (0/1) on the control panel shall be in "0" position
3. Once plugged in to the mains, Switch (0/1) shall be moved from "0" position to "1" position
4. Controller should be programmed in line with individual needs
5. In order to enter the programming mode (Prog), buttons "+" and "-" must be pressed at the same time during controller start-up.

5.2. Starting work with the controller

1 – signalling the work state

Indicator lights up – temperature regulator switched on, indicator dimmed – temperature regulator switched off (controller operates as an ordinary thermometer), indicator flashes – temperature regulator switched on and initial heating in progress

2 – signalling the activation of heating transmitter
Indicator lights up – transmitter contacts closed (heating on), indicator dimmed – contacts opened (heating off)

3 – display Working mode – default mode, selected after controller power supply switched on. The display shows the measured temperature, readings specified in °C.
Setting mode – selected when button "+" or "-" has been pressed. The display shows the preset temperature. Readings specified in °C. Reading flashes and returns to measured temperature after a while.
Working time setting mode (Pro.) – activated when "ON/OFF" button is pressed and held. The display shows working time, counting it from activation, after which the thermostat gets switched off. Readings specified in hours.
Display brightness setting mode (d.br.) – activated when "ON/OFF" button is pressed and held for a longer time. The display shows the currently set brightness on all its segments . When the setting limit values are reached, the segments start to flash.
The modes specified below are accessible once the relevant code have been entered. **Calibration mode (CAL.) code L-1** – activated when the "ON/OFF' button has been pressed and held for a longer time. The display shows the measured temperature including the calibration. Readings specified in °C.
Preliminary heating time setting mode (P.tI.) code L-2 – activated when "ON/OFF" button is pressed and held for a longer time. The display shows the working time, counting it from the activation, for which the controller performs preliminary heating maintaining the preliminary heating temperature programmed by the manufacturer. Reading "OFF" means deactivation of the preliminary heating function. Readings specified in minutes. When preliminary heating activated, the controller displays marking "HC2" during start-up.
Preliminary heating temperature setting mode (P.tE.) code L-3 – activated when the "ON/OFF" button is pressed and held for a longer time. The display shows the value of preset temperature for preliminary heating. Readings P … specified in °C.
Preset temperature limit setting mode (L.t.h.) code L-4 – activated when "ON/OFF" button is pressed and held for a loner time. The display shows maximum value of preset temperature that can be set . Readings L … are specified in

4 – button „-„ value decreasing Working mode – pressing the button will decrease the preset temperature value. During preliminary heating, the option to change the setting for preset temperature is blocked.
Working time setting mode – pressing the button will decrease the time after which the thermostat will get switched 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 temperature to be transferred, calibrating the measurement duct in this way.
Preliminary heating time setting mode – pressing the button will decrease the time after which the thermostat will switch from preliminary heating phase to proper heating phase.
Preliminary heating temperature setting mode – pressing the button will decrease the value of preset temperature that will be maintained during preliminary heating.
Preset temperature limit setting mode – pressing the button will decrease the value of maximum preset temperature that will be to set.

5 – button „+" value increasing Working mode – pressing the button will increase the value of preset temperature. During preliminary heating, the preset temperature setting changes is blocked.
Working time setting mode – pressing the button will increase the time after which the thermostat gets switched 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 transferred temperature, calibrating the measuring duct in this way.
Preliminary heating time setting mode – pressing the button will increase the time after which thermostat switches from preliminary heating phase to proper heating phase.
Preliminary heating temperature setting mode pressing the button will increase the value of preset temperature which will be maintained during preliminary heating.
Preset temperature limit setting mode – pressing the button will increase the value of maximum preset temperature that can be set

6 – „ON/OFF" button
Short-time pressing of the button will activate (ON) and deactivate (OFF) the regulator interchangeably. At deactivated state (OFF) the regulator act as a thermometer. At activated state (ON) , the regulator shall activate and deactivate the outlet to control the heater in order to maintain the temperature set by the user.
Longer pressing and holding of the button and subsequent button releasing will activate the working time setting mode, signalled with (Pro.) notice. In this mode, by means of "+" and "-" buttons , the user has a possibility to define the time after which the controller gets deactivated, i.e. switches to the OFF state. Exit from the mode and setting approval occurs once the "ON/OFF" button is shortly pressed.
Longer pressing and holding of the button and its subsequent releasing will activate the display brightness setting mode – signalled with (d.br) notice.
In this mode, by means of "+" and "-" buttons the user has the possibility to set the brightness of the display segments. Exit from the mode and confirming the setting occurs when the "ON/OFF" button is pressed shortly. Longer pressing and holding of the button and subsequent releasing of the button will activate the calibration mode, signalled by the (CAL) notice. In this mode by means of "+" and "-" buttons, the user has a possibility to adjust the temperature readings to the real temperature. Exist from the mode and confirming the calibration settings occurs when the "ON/OFF" button is pressed shortly.

NOTE – the controllers supplied have been calibrated already.

Longer pressing and holding of the button and subsequent its releasing shall activate the preliminary heating time setting mode, signalled by (P.tl) notice. In this mode by means of "+" and "-" buttons the user has a possibility to define the time after which the controller gets switched from preliminary heating phase to proper heating phase. Deactivation of preliminary heating is signalled by the "OFF" notice. Exist from the mode and setting confirmation occurs when the "ON/OFF" button is pressed shortly.

Longer pressing and holding of the button and its subsequent releasing will activate the preliminary heating temperature setting mode, signalled by (P.tE.) notice. In this mode by means of "+" and "-" buttons the user has a possibility to define the preset temperature that shall be maintained during preliminary heating. Exit from the mode and setting conformation occurs when the "ON/OFF" button is pressed shortly.

Longer pressing and holding of the button and its subsequent releasing will activate the preset temperature limit setting mode, signalled by (L.t.h.) notice. In this mode by means of "+" and "-" buttons the user has the possibility to set the upper limit of the preset temperature settings. Exist from the mode and setting confirmation occurs after the "ON/OFF" button is pressed shortly.

NOTE – all controller settings and working state (activated or deactivated) are stored in the non-volatile memory.

Entering the access codes

During controller start-up (displayed controller's name, software version, settings), press and hold the "+" and "-" buttons. Once "---" has been displayed on the screen, buttons may be released and the relevant code can be set. The code shall be confirmed by the "ON/OFF" button.

CODE	CCESS LEVEL
any	L-0
157	L-1
314	L-2
628	L-3
942	L-4

Working time setting mode (code L-0)
Display brightness setting mode (code L-0)
Calibration mode (code L-1)
Preliminary heating time setting mode (code L-2)
Preliminary heating temperature setting mode (code L-3)
Preset temperature limit setting mode (code L-4)

5.3. Controller error report

MHC1 controller has been equipped with advanced mechanisms for error detection. Detection of any error activates emergency work stoppage and triggers error report screen. Error report screen is displayed in a continuous manner. It is therefore necessary to disconnect power supply, remove the error source and controller reactivation

ERROR	ERROR DESCRIPTION
(E-0) CPU STATUS	Damaging the main processing unit.
(E-3) T < Tmin	Too low temperature measured by T1 sensor.
(E-4) T > Tmax	Too high temperature measured by T1 sensor.
(E-5) button -	"-" button damage/pressing
(E-6) button +	"+" button damage /pressing
(E-7)button ON/OFF	"ON/OFF" button damage/pressing

5.4. Controller's technical parameters

CONTROLLER'S TECHNOLOGICAL PARAMETRES (STATE FOR FW: 0.1)	
Temperature measurement range*:	-50°C ... +250°C
Temperature readout resolution:	0,1°C
Temperature measurement accuracy:	± 1,5 °C
Minimal value of preset temperature:	30°C
Maximum value of preset temperature:	Set up in the range: 45°C ... 95°C
Setting range for automatic deactivation:	1 … 96 h
Setting range for preliminary heating time:	0 … 60 minutes
Regulation type:	bistate

Controller's electrical parameters	
Power supply for the controller board: Power supply of dedicated feeder:	12VDC ±10%, Min. 200mA 100…240VAC 50/60Hz
Measurement input for temperature measurement	PT1000
Outlet type:	Relay, contact NO
Output load:	AC1 - 9A 230V
Maximum power of the heater attached:	2000W 230VAC
Environmental conditions	
Temperature of the regulator in operation:	0°C…55°C
Setting range for preliminary heating temperature:	30oC ... 40oC
Ambient temperature for stored regulator:	0oC…60oC
Air humidity for the regulator in operation:	Max 65% at 25 oC

6.Storage of honey creaming machine

After completion of the honey harvest, the device must be thoroughly cleaned and dried.
Before starting the honey creaming machine, in the case when it has been moved from the room with the lower temperature to spaces of higher temperature, you should wait until it reaches the ambient temperature. Store in dry rooms at a temperature above 0º C.
Before each new season, one should make an additional technical review, and in the event of
fault detection, please contact the service center.

7. Maintenance of the creamer

IMPORTANT!

Before commencing the maintenance, pull out the mains plug!!!
Before the first use, the creamer must be thoroughly washed and dried. The creamer must be washed with hot water by means of a soft flannel cloth with the addition of agents approved for the contact with equipment used in the food industry, and then carefully flushed with clean water, remembering about securing electronic elements and bearings against wetting!!!
The machine must be stored in a dry room.
No elements of the machine can be maintained with

IMPORTANT!!!
Wash the covers using warm 25 [°C] soapy water.
NOTE!!!
Do not use alcohol for cleaning
(it may cause surface cracks of the cover).

8. Recycling

The Worn out product shall be subject to disposal as waste only in the selective collection of waste organized by Network of Municipal Collection Points for Waste Electrical and Electronic Equipment. The consumer shall have the right to return used equipment in the electrical equipment distributor network, at least, free of charge and directly if a device that is returned is the proper kind and provides the same functionality as the newly purchased equipment.

9. Guarantee

Products purchased in the "Łysoń" company are covered by manufacturer's warranty.

The warranty period is 24 months.

On purchased products shall be issued a receipt or VAT invoice.