

C-01/ 400V



**HONEY CREAMING
AND DECRYSTALLIZATION MACHINE
With automatic controller
400V
With temperature control
(50L - 200L)
USER'S MANUAL**

IMPORTANT

Read this user's manual before use and follow the given instructions.

Producer cannot be held responsible for any damages caused by improper use.



ELECTRICAL SAFETY

- The device must be plugged into the grounded socket with a voltage specified on the rating label.
- 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.
- 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.
- In case of damage, in order to avoid hazard, repairs can only be carried out by a special service or a qualified person.
- Pulling the cord is strictly forbidden. Keep the cord away from sources of heat, sharp edges and ensure it is in good condition.



SAFETY

- 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.
- Keep away from children!
- Place on dry surfaces only!
- Prior to commencing work, make sure that the „STOP“ emergency button is switched off. It should be turned so that it pops out.
- Pressing the “EMERGENCY STOP” button will result in the immediate stop of the creaming machine.
- The creaming machine cover should be closed while mixing.
- Do not move or adjust the creaming machine whilst in use.
- Protect your engine and controller against moisture (also while storing)
- Do not use this unit near flammable materials
- It is forbidden to carry out any maintenance during operation.
- All covers must be securely affixed to the device.
- Should any hazard arise, press the emergency button immediately. Once the danger has been eliminated, the device can be restarted.
- For indoor use only! Not to be used outdoors!



Repairing while in motion prohibited!



Removing covers while in use strictly forbidden!

CREAMING MACHINE MAINTENANCE



IMPORTANT!

Unplug the device before performing any maintenance

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.

Store the creaming machine in a dry place.

Do not perform any maintenance of any elements by the use of chemicals.

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 **40°C** 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.

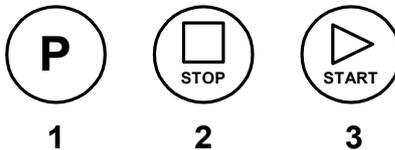
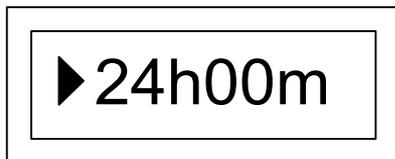
This process should be performed gradually, that means one should not fill the entire device with honey, but to dose small amounts of honey regularly.



C-01 CREAMING MACHINE DRIVER

The controller's performance comes down to a cyclic switching on and switching off the creaming machine's engine, as per pre-set user defined settings.

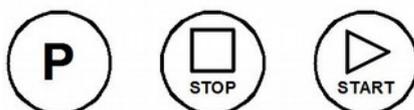
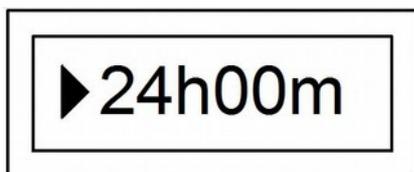
The cyclical mixer's turn-off means that for every 15 minutes of stirring, there is 1 hour of stand-by. (optimal parameters for the creaming process) As an example: with the total duration of cycle (24 hours) there will be 20 engine turn ons, each one lasting 15 minutes and 19 cycles of standstill each one lasting 1 hour.



Rys 1. Creaming machine control panel

Manning the driver

After powering on, the controller executes the boot sequence - performing some basic diagnostic tests confirming the correctness of operation. Error detection is indicated by displaying the appropriate error message on the LCD screen. If no error is found, there will be message displayed as per **Rys.2**



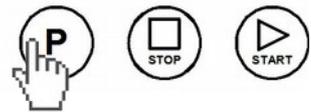
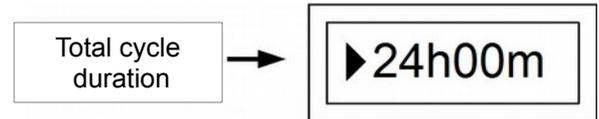
Rys. 2. Depending on presets the LCD will display

previously given working time of the creaming machine.

This controller has been equipped with several modes enabling precise settings of total duration of creaming cycle from 24 hours to 99 hours and 1 hour in dedicated mode (selected models only)

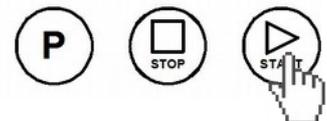
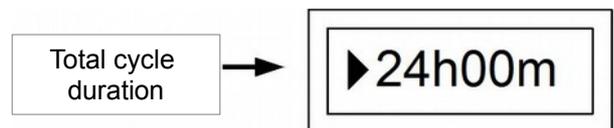
Manning the driver comes down to selecting appropriate mode by pressing „P” button followed by launching the required cycle by pressing „START” button.

To set the duration of stirrer press „P” as per **Rys 3**. followed by the setting of creaming machine's working time. (**24h, 36h, 48h, 60h, 72h, 84h, 96h, 99h**).



Rys. 3 Choosing the appropriate mode

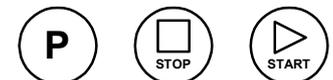
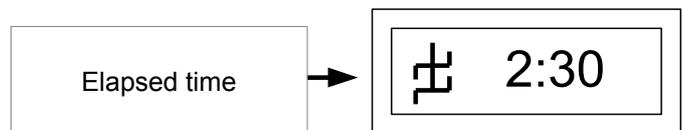
To start the stirrer press „START” as per **Rys. 4**



Rys. 4 Starting the programme

The LCD screen shows (if it works in the creaming cycle mode) the total time elapsed since the beginning of the cycle as per **Rys.5**

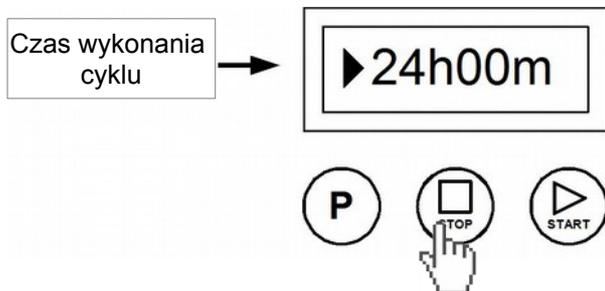
Additional icon indicates whether the stirrer is in use (no icon – stirrer does not work ; icon displayed – stirrer rotates)



Rys 5. Creaming cycle in progress

You can terminate the working programme by pressing „STOP” as per **Rys. 6**.

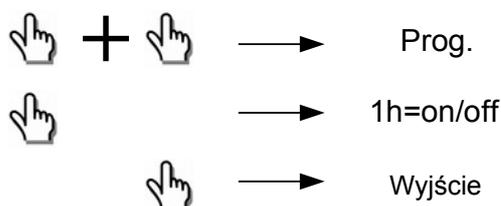
Restarted programme will launch its normal cycle i.e. working for given time. Successfully performed cycle will be indicated by displaying „OK” message on the LCD screen. (**Rys 7**).



Rys. 6 Creaming process termination



Rys 7. Successfully performed creaming cycle



Rys 8. Controller's „stirring cycle”

In case of opening the creaming machine's cover, the safety switch located on the lid will stop the entire creaming cycle. Message “STOP” will appear and elapsing time counting will be suspended. Re-closing the lid will result in controller entering the previously set mode which means reactivating the interrupted cycle.

„STIRRING MODE” SETUP

„Stirring mode” sets the stirrer to work continuously for 1 hour.

This option is **only available in selected models – i.e. equipped with heating module (de-crystallizer)!!!**

To execute „Stirring Cycle” , press and hold „STOP” and „P” buttons simultaneously during boot-up.(message **ŁYSON-C01** will appear)

Having entered „menu”, there will be a message displayed that programming mode is active. Releasing those buttons will result in current configuration of „Stirring cycle” being displayed.

To change the configuration of „Stirring Cycle” press „P” (repeatedly)

Configuration **1h=on** (continuous stirring for one hour) means that 1h program will be enabled.

Accordingly, **1h=off** (continuous stirring for one hour) means that 1h function will be disabled.

To exit „Cycle programming” press „STOP”.

P = 1h (Continuous stirring cycle),



Rys 9. Creaming machine termination message

Error Codes

ERROR CODE	ERROR DESCRIPTION
E-001	MICROPROCESSOR CONTROLLER'S INTERNAL MALFUNCTION
E-002	PRESSED/LOCKED "START" BUTTON
E-003	PRESSED/LOCKED „P” BUTTON
E-004	PRESSED/LOCKED „STOP” BUTTON

TEMPERATURE CONTROLLER



Fot.1 temperature controller



„0/1” switch – switched „1”



Settings:

1. Prior to plugging the device, make sure the controlling has been disabled. The 0/1 switch on the control panel should be set to „0”
2. Having powered the device up, turn the switch on the control panel from „0” to „1”
3. The controller has to be programmed according to user's needs
4. To enter the programming mode „Prog” press „+” and „-”. simultaneously during start up.

Programming should begin with :

First parameter T1 - the drying temperature - decrease this value by pressing the „-” and increase this value using the „+”, confirm your selection by pressing **“ON / OFF”**.

Having done it, the hours of operation should be set: decrease the value by pressing the „-” button and increase with the „+” button, confirm the selection by pressing **“ON / OFF”**

After that, **minutes of work** should be set: decrease the value by pressing the „-” and increase with the „+” button, confirm the selection by pressing **“ON / OFF”**

Go to T2, T3 parameters and the duration of each parameter. When setting these three parameters, proceed as explained above.

Having stored onto the controller's memory the parameters of each steps, the temperature and the total working time will be

displayed.

The controller will automatically reset and enter the work mode.

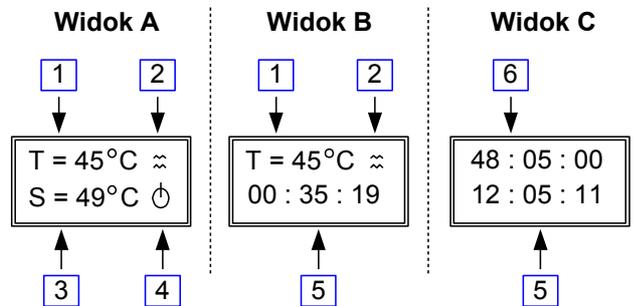
Press **„ON/OFF”** to start the decrystilizer. Press **„ON/OFF”** again to stop it.

Stages	T1	S
STAGE 1	T1 = 38°C	S = 2 hours and 15 min.
STAGE 2	T2 = 40°C	S = 3 hours and 15 min.
STAGE 3	T2 = 45°C	S = 3 hours and 30 min.

The controller, after turning on, will launch the selected cycles. Step 1 first, warming up to 38 ° C and maintaining the desired temperature over 2 hours and 15 minutes. After that, the driver switches to Stage 2 and raises the temperature to 40 ° c and maintains it for the next 3 hours and 15 minutes

Then the driver goes into Stage 3 and once again raises the temperature to 45 ° C and maintains it for the next 3 hours and 30 minutes.

After the end of cycle, the controller turns off.



Rys 2. Work mode screen views

SCREEN VIEW	DESCRIPTION OF VIEW
A	current temperature and temperature set-point.
B	Current temperature and elapsed heating cycle.
C	Specified and implemented heating cycle

MICROPROCESSOR STEERING	
Measured temperature range	0°C to +85°C
Stabilised temperature range:	+30°C do +°60C
Regulation type:	Bistable (ON / OFF)
Reading resolution / temperature adjustment:	1°C
Hysteresis of temperature regulation	±1°C
Guaranteed accuracy of the temperature reading:	±0.5°C within the scope of 0°C to 85°C
Quantity of heating cycles steps:	3
Minimal step duration:	1 minute
Maximal step duration:	32 hours and 59 min.
Maximum total cycle	≈ 99 hours

time:	(4 days and 3 hours)
Default parameters for step 1	+45°C / 6h
Default parameters for step 2	+45°C / 21h
Default parameters for step 3	+45°C / 21h

Error Codes

ERROR CODE	ERROR DESCRIPTION
E-100	Program memory error
E-101	Configuration memory error
E-102	Operation memory error
E-200	Switched / blocked „-” button
E-201	Switched / blocked „+” button
E-202	Switched / blocked „ON/OFF” button
E-301	Temperature sensor faulty
E-302	Sensor temperature too high (value above the range)
E-303	Sensor temperature too low (value above the range)
E-304	Heating cycle temperature too high
E-305	Heating cycle temperature too low

E-304 – error displayed when after the steering's start up, the read temperature exceeds the highest (for that cycle) temperature by 10 °C .

E-305 – displayed when, despite of 2 cycles completed, (step 1 and step 2) the read temperature has not reached the level of the lowest given temperature less 5 °C. Reaching the exact level is signalised by a short beep.

Working area

Proper light should be provided and the area should be kept clean and tidy.

Storing

Once creaming process has completed, clean and dry the device thoroughly.

Periodical technical check-ups need to be performed.