Instructions Manual

Rod Honey Dehydrator

LYSON

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This manual covers following devices (codes):

W4023

Table of contents

1. General safety instructions

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.

1.1. Electrical safety

1. 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.
2. 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!
3. Make sure that the main switch is in „0” position before plugging the unit in.
4. Make sure that the nominal voltage of the device and power source are compatible.
5. Carefully insert the plug into the mains socket. Make sure your hands and the floor surface in the room are dry!
6. The cover must be closed during operation! Do not open the cover while the device is working!
7. Do not move the device during operation.
8. Protect the motor and the control unit from moisture (also during storage).
9. 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

1. 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.
2. This device is not a toy, and shouldn’t be used as one. Children should not to play with it.
3. In the event of damage to the device, to avoid any health and safety risks, repairs should be carried out only by qualified personnel.
4. Never carry out any maintenance or repairs during operation or if the device is plugged in!
5. All covers must be firmly attached to the device during operation
6. In case of any danger, use the safety switch immediately. The device can be restarted after the hazard has been eliminated.
7. For indoor use only. The device is not suitable for outdoor use.
8. Do not use or store the device at the ambient temperature below freezing. If the device has been moved from a cold room to a room with a higher temperature, before switching on wait until it reaches room temperature.

Never carry out any repairs during operation

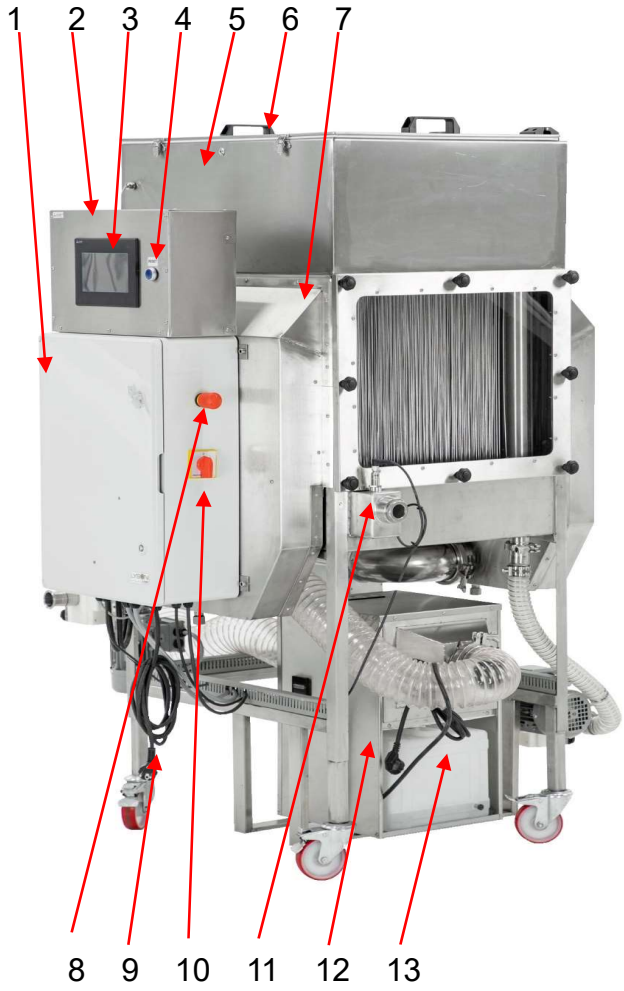
Do not remove covers during operation

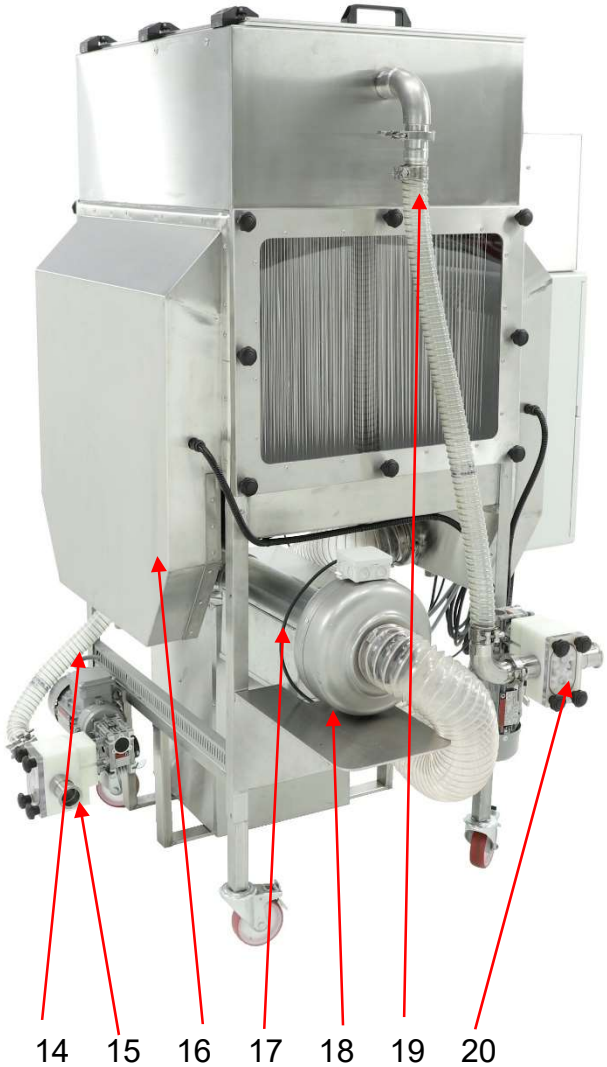
2. Product description

Honey needs to be dehydrated if the water content of the honey exceeds 18-20%. A high water content in honey lowers its shelf life and also influences its delamination and fermentation even during storage at low temperatures.
This device is designed to remove the excess water from honey by evaporating it. Warm air is forced through the device, which keeps the internal microclimate dry and as a consequence favours the evaporation of water from honey. The process is even further accelerated by the moisture absorber unit installed within the devices warm air circulation system.
The device is powered by 230V.
Pour liquid honey into the device, preferably at a temperature of about 40°C, to the MAX level marker inside the device.
Systematically check the water content in the honey with a refractometer.
After the dehydration process is completed, the honey should be poured out of the device.

2.1. Design

1-power supply cabinet
2-controller casing
3-touch screen control panel
4-RESET button
5-top honey tank 100L.
6-tank cover
7-air extraction duct
8-safety switch
9-main controller power cord
10-main switch
11-bottom tank(capacity 42L) honey level sensor.
12-moisture absorber
13-moisture absorber power cord
14-honey draining pipe
15-drain pump
16-air intake duct
17-air heater
18-heater fan
19-honey supply pipe
20-honey supply pump





2.2. Technical specifications:

- power supply – 230V/16A
- total power consumption – 2,7kW
  - -pumps – 370W. (2 units.)
  - -air heater – 1200W.
  - -heater fan – 55W.
  - -moisture absorber – 680W.
  - -circulation fan – 4,3W. (6 units)
- efficiency – approx 0,5%/hour depending on ambient temperature and type of honey.
- honey hoses – Ø40mm.
- air ducts – Ø100mm.
- build material – acid resistant stainless steel
- cover material – metapleks 4mm thick.

Dimensions:

- height – 1750 mm.
- width – 1250 mm.
- length – 1300 mm.
- weight -195 kg.

3. Instructions for use

3.1 General instructions – preparation for use

1. Set the device up in a designated, clean, dry and well lit room,
2. Keep a free space around the device for better handling,
3. Once the dehydrator is set up, lock the coaster wheels to prevent the device from moving,
4. Provide easy access to the power source,
5. If needed empty the moisture absorber's water tank,
6. Check connections of all the houses and power cords,
7. Closely follow the instructions of use.

3.2 Operation instructions

1. The device is intended for honey dehydration
2. It works in a closed cycle, first by pumping honey, e.g. from a barrel with a pump **(20)** into the upper 100L dehydrator tank **(5)**, then the honey flows down the bars into the lower 42L tank. After the process has finished the honey is pumped into a container of choice with a pump (**15**).
3. The device has to be cleaned before the first use and after finishing work according to the instructions in the "Cleaning and Maintenance" section.
4. Before start:
   - Plug in the power cord of the power supply cabinet **(9)** and the moisture absorber (13) into the power supply socket,
   - Pour about 900ml of honey into the suction pump (20). through the hose. This will make it easier to create suction force in the pumped.
   - Switch on the dehydrator with the main switch **(10)**.
   - On the control panel **(3)** set appropriate parameters according to the description of the controller **(as in section 4)**
   - Start the dehydrator and, if necessary, observe the flow of honey and adjust the pumps to the desired parameters.
   - Check honey dehydration process with a refractometer. After obtaining the desired level of water content in the honey, stop the process.

Important!!! The machine must be completely drained and cleaned after finishing work

4. Controller

Description

The Mitsubishi HMI touch control panel allows for intuitive and easy operation of the dehydrator. The controller, through the installed sensors controlling the level of honey in the upper and lower tank, supervises the operation of both supply and draining pumps. An additional PT100 sensor in stainless steel braid monitors the temperature inside of the dehydrator. The process is automatic and finishes when the desired water content is obtained and the dehydrator is stopped.

Controller – instructions of use

Starting the device:

- Turn on the power with the main switch **(10)** on the right-hand side of the power supply cabinet and wait about 10 seconds until the controller boots up.
- Check if the safety switch **(8)** is in “work” position and the blue RESET button **(4)** is not illuminated. After releasing the safety button, the controller will automatically ask the operator to press the RESET button **(4)** by highlighting it.
- Pressing the highlighted RESET button will deactivate it and activate the machine control circuits.
- MAKE SURE THAT THE LOWER TANK IS EMPTY BEFORE STARTING THE AUTOMATIC MODE. THIS WILL BE INDICATED BY AN ORANGE LIGHT ON THE LOWER TANK LEVEL CONTROL SENSOR **(11)**. OTHERWISE, THE CONTROLLER WILL NOT ALLOW THE AUTOMATIC MODE TO BE STARTED.

Fig.1

- activated automatic mode indicated by the light in the WORK PARAMETER CONTROL panel (Fig.1).
- Pressing the START-AUTOMATIC MODE button (Fig.2) will put the controller into automatic mode. The air heating system and the honey supply pump will be switched on with the default work parameters. The parameters can be changed in the dedicated control panels for each subsystem (Heating system, Supply pump, Emptying pump).

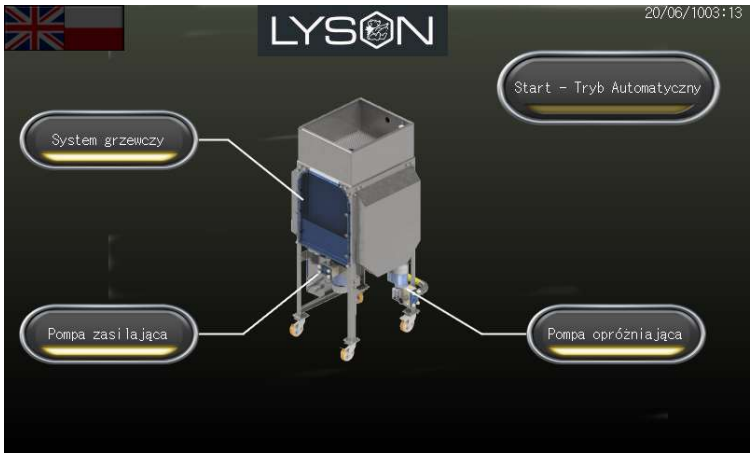


Fig.2

Automatic Mode:

- The controller monitors both the upper and lower tank honey level. Tanks are controlled by two independent logic threads of the controller’ s processor.
- The sensor controlling the maximum state of honey is located in the upper tank. If the sensor detects the maximum honey level, it will switch off the supply pump for 3 minutes. This lowers the level of honey in the upper reservoir. After 3 minutes, the pump automatically switches on and continues to operate until the next instance of the max level has been detected.
- The lower tank’s level control is twofold. The sensor has two defined points in which it communicates with the controller. After reaching the maximum honey level, the controller switches on the pump with default work

parameters. The pump stops again **25 seconds after** the sensor reaches the minimum honey level **(offset)**.

Manual Mode:

- Each subsystem has its own manual work screen (Fig 3, 4, 5), in which some parameters can be manually adjusted. Changing work parameters in manual mode also changes them in automatic mode
- The manual mode is used for pumping out the remaining honey after the dehydration process is completed.
- **In manual mode, the sensors are inactive.**

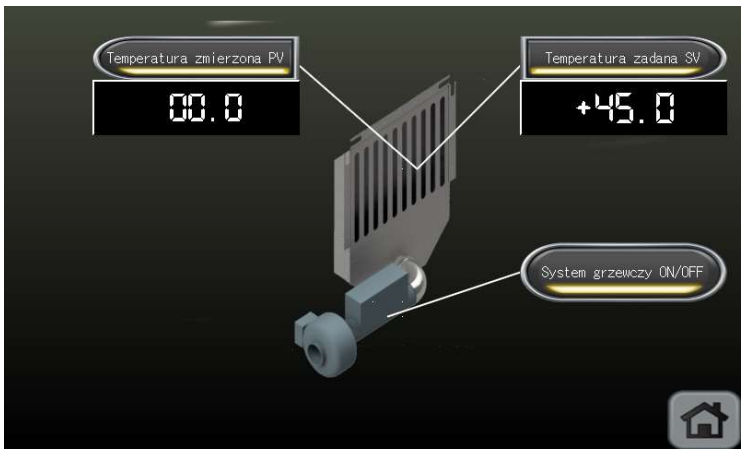


Fig.3

Fig.4

Fig.5

After restarting the power supply, the controller restores all parameters to their default values (factory settings)

5. 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 5ºC.
An additional technical check should be carried out periodically, and if any defects are found, please contact the manufacturer.

6. Cleaning and maintenance

IMPORTANT!

Unplug the device before commencing any maintenance or cleaning procedures!

Make that no honey is left in the machine after finishing work.
While cleaning ensure the safety of all electrical components like motors and controller panels (for the time of washing cover them with waterproof fabric or plastic film).
Make sure no water gets into the air intake system, which could lead to damaging its electrical components.
Wash the device with hot water with the addition of detergents (approved for use in the food industry).
Rinse thoroughly and dry before storing.

The device is cleaned in two phases: initial and final (disinfecting).
The initial phase – rinsing honey residue from honey transfer system including pumps. Do not disassemble the device immediately after finishing work.
Instead prepare about 50l of hot water in a container, place it above the honey pump and insert the honey supply hose into it. Pump about 40l of warm water (temperature from 50°C to 60°C) through the system in order to rinse the pump modules, hoses and the rest of the device,
This process protects the device from damage that can be caused by crystallised honey. In case of improper or insufficient cleaning of the device, the seals on the pumping module shaft may break. Damage resulting from improper or insufficient cleaning is not subject to warranty.
Final phase – remove hoses and wash the device thoroughly, then if necessary, pour hot water into the upper tank and rinse the dehydrator. Put a container under the open drain valve of the lower tank to collect draining water. Finally, dismantle the pump modules following the instructions below.
Use warm water or detergents intended for disinfecting the equipment approved for contact with food.
After cleaning rinse and dry thoroughly, then replace the dismantled modules.

1.Unscrew the 4 knobs from the gear module (front of the unit).

2. remove the module from the bracket

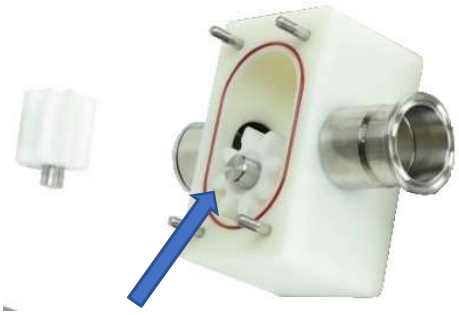
3. remove the gear cover

4.Remove the gears with shafts and wash everything thoroughly. Allow to dry.

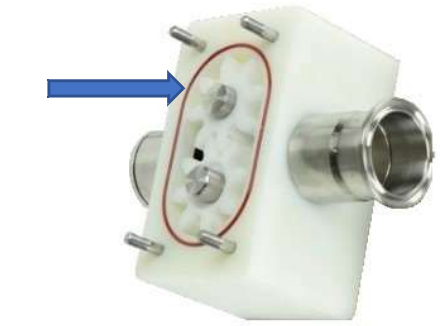
5. replace the module body on the bracket

6. replace the seal

7. replace the gear with longer shaft first

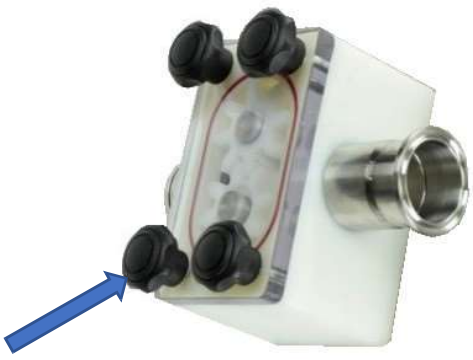


8. replace the other gear with the shaft



9. reinstall the cover on the module body

10. replace and tighten the 4 knob nuts.



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).

7. 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.

8.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