

**INSTRUCTION MANUAL
CASSETTE MANUAL HONEY EXTRACTORS
CASSETTE HONEY EXTRACTORS WITH THE
POWER SUPPLY FOR 230 AND 12V
720 – 1200 MM ELECTRIC DRIVE**

**CASSETTE HONEY EXTRACTORS WITH
THE POWER SUPPLY FOR 230 AND 12V
800 MM MANUAL + ELECTRIC DRIVE**



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1. Instruction Manual applies to honey extractors with codes:

4-CASSETTE MANUAL HONEY EXTRACTORS:

W2036KN, W2035KN, W2037KN

**4/6/8-CASSETTE HONEY EXTRACTORS WITH THE POWER SUPPLY FOR 230 + 12V
ELECTRIC DRIVE:**

W20130KN, W2013000KN, W2013KN, W201300KN, W2013KBN, W2013KAN, W2014KN,
W2015KN, W201601KN, W2013000MKN_12V230V_GR

**CASSETTE HONEY EXTRACTOR WITH THE POWER SUPPLY FOR 230 + 12V MANUAL +
ELECTRIC DRIVE:**

W2013KN_NR

TABLE OF CONTENTS

1. General safety rules of utilisation of honey extractor
 - 1.1 The rules for the use
 - 1.2. Electrical safety
 - 1.3. Operational safety
2. Instructions for honey extractor use
 - 2.1. General rules of preparation of the honey extractor to operation
 - 2.2. Rules for use
3. Diagram (scheme) of honey extractor
4. Characterization of honey extractors
 - 4.1. 4-cassette manual honey extractors
 - 4.1.1. Technical parameters
 - 4.2. 4-cassette honey extractors with the power supply for 230 V or 12V
 - 4.2.1. Technical parameters of honey extractors
 - 4.3. 6-cassette honey extractors with the power supply for 230 V or 12V
 - 4.3.1. Technical parameters of honey extractors
 - 4.4. Control in 4, 6-cassette honey extractors for 230V + 12V
 - 4.4.1. Controller functions and programming
 - 4.4.2. Automatic stop, power-off, emergency stop and display contrast adjustment
 - 4.4.3. Controller programming
 - 4.4.4. Controller setup menu
 - 4.4.5. Error codes
 - 4.4.6. Technical specifications of the controller
5. Storage of honey extractors
6. Maintenance and cleaning of honey extractor
 - 6.1. Dismantling the basket in 4-cassette manual honey extractors
 - 6.2. Dismantling the basket in 4,6-cassette honey extractors for 230V + 12V
7. Disposal
8. Warranty

1. General safety rules of utilisation of honey extractor

Before using the device, be sure to read the instructions for use and follow the instructions contained therein. The manufacturer is not liable for damages caused by the use of the device contrary to its intended purpose or inappropriate handling.

1.1. The rules for the use

1. The honey extractor is intended for centrifuging honey from the frames.
2. Before centrifugation, carefully wash the honey extractor with hot water with a small amount of preparations authorised for cleaning equipment intended to come into contact with food, or using a pressure washer, bearing in mind the protection of electronic components and bearings against getting wet!

ATTENTION!!!

Device cover to be washed with soapy water at room temperature 25

IMPORTANT!!!

Do not use any detergents with alcohol (causes cracking in plexi glass)

Attention! Concerns the power supply 12V!

It is forbidden to connect the honey extractors with control 12V+230V to a power supply source from the rectifier because can occur the risk of damage to the control.

This damage is not subject to warranty.

The appropriate power source is a battery or power supply unit of the "Łysoń" company.



1.2. Electrical safety

1. If the power cord or connection cord is damaged and one should replace it, then this operation should be carried out as guarantor or by a specialised repair facility or a qualified person in order to avoid the risk.
2. Do not use the honey extractor, when the power cord or connection cord is damaged.
3. Before you switch on the device to the mains, one should make sure that the control is off. The "0/1" switch on the control panel should be in the "0" position.
4. Make sure that nominal voltage of honey extractor and the power supply source are compatible (battery or power supply unit of the Łysoń company).
5. During connecting to the mains, one should be careful. Hands must be dry! The ground on which the centrifuge stands should be dry!
6. In the moment of starting of honey extractor, "emergency STOP" button should remain disabled (turn so that jumped out). Pressing the "emergency STOP" button enables immediate stopping the work of the centrifuge.

7. The lid/cover of honey extractor during centrifugation must be closed! It is forbidden to open the lid of honey extractor during centrifugation.
8. Do not move/rearrange/transpose of honey extractor during centrifugation.
9. One should protect the motor and control against moisture; (also during storage)
10. It is forbidden to pull the power cord. The power cord must be kept away from heat sources, sharp edges and take care of its satisfactory condition.



1.3. Operational safety

1. This equipment is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge concerning the equipment unless this is done under the supervision or in accordance with the instructions for use of the equipment, handed over by persons responsible for their safety. You should pay attention to the children, to ensure they do not play with the honey extractor.
2. In the case of honey extractor failure, in order to avoid a hazard, the repair can only perform specialised repair facility or a qualified person.
3. Do not carry out any maintenance work when the appliance is operating.
4. All guards when the appliance is operating must be permanently attached to the honey extractor.
5. In the event of any hazard, you should immediately use the safety switch. Restart the of honey extractor may occur after the elimination of the hazard.
6. Do not turn on and store the device at a temperature below 0° C. As well as do not switch on the honey extractors when the ambient temperature is lower than 5°C. Before starting the honey extractor, in the case where it has been relocated from the room with the lower temperature of the room at a higher temperature, one should wait until it reaches the ambient temperature.



Ban on repairing the device which is in motion



Ban on removing guards when operating the device

2. Instructions for honey extractor use

2.1 General rules of preparation of the honey extractor to operation

1. Put the honey extractor at the place designated for this purpose.
2. Attach the honey extractor to the ground, in order to avoid its transposition during centrifugation.

2.2 Rules for use

1. The honey extractor is designed for centrifuging/extraction of the honey from the frames.
2. Before centrifugation, carefully wash the honey extractor in accordance with the guidelines in Chapter – "Maintenance of honey extractor"
3. During washing, one should take special care, in order not to allow excess moisture in the engine, in control of honey extractor (at the time of cleaning/washing, can be covered with waterproof material).
4. After washing, one should rinse thoroughly and dry honey extractor.
5. The arrangement of frames:
 - The honey extractor should be properly chosen for the type of frames.
 - In cassette honey extractor, we pay special attention to the correct arrangement of frames, which should be situated in the cassette **Photo 1**

The Warsaw, Ordinary and Extended frames are arranged with the upper small beam down.



Photo1 The correct arrangement of the frames in a cassette basket (WL, OS, D, LN, AP)
Designations: WL-Wielkopolska (Greater Poland), OS- of Ostrowska, D-Dadant, LN – Langstroth, AP – Apipol



Attention!

Errors in the arrangement of frames may cause damage, which is not subject to warranty!



Attention!

Frames can be put only in the moment of total stopping the basket of honey extractor!

6. Before starting of honey extractor, one should:
 - Make sure that the frames have been well placed in the basket of honey extractor, to eliminate the risk of damage.
 - Turn the power on with the '0/1' switch



- Check that the safety button is not pressed



- Then, connect the honey extractor to power supply unit, battery (12V) or to the supply network 230V and switch on the honey extractor in accordance with the instructions of the honey extractor control.

7. The first phase of the centrifugation should be done slowly, to prevent the possibility of breaking honeycombs off. Particular attention should be paid to so-called "young frames".

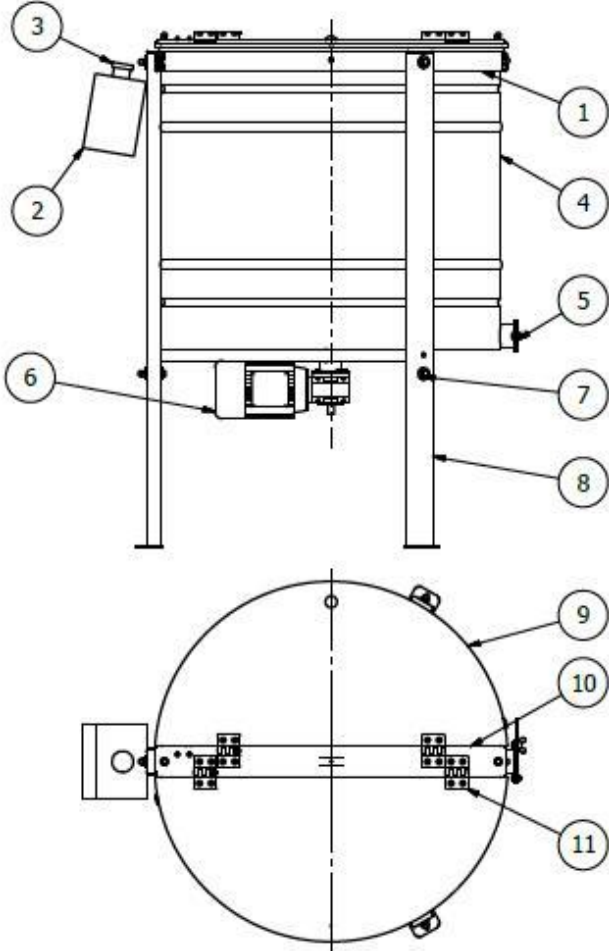
The spinning basket should not be blocked by honey, depositing/remaining in the drum; if will follow such a situation, one should stop the honey extractor, in order to prevent its damage. After flowing honey off into containers, you can restart centrifugation.

9. Place containers designed for honey under the drain valves.
10. During centrifugation, drain valves should be opened so that centrifugal honey could freely flow down.

Place of work

It should be illuminated and keep the necessary purity.

3. Diagram (scheme) of honey extractor



Legend:

1. Rim of honey extractor
2. Control of honey extractor
3. Safety switch
4. The drum of the honey extractor
5. Valve of honey extractor
6. Engine of honey extractor
7. Fixing screws
8. Leg of honey extractor
9. Cover of the honey extractor
10. Fastening slat
11. Hinges of honey extractor

4. Characterization of honey extractors

4.1. 4-cassette manual honey extractors

Honey extractor adapted to work in the field. After centrifuging one side of frames, one should stop the honey extractor and manually turn the cassettes on the other side.

4.1.1 Technical parameters

- Drum made of acid proof stainless steel sheet 0.6mm,
- Conical/tapered bottom made of acid proof stainless steel sheet 0.6mm
- Basket made of acid-proof steel rods $\varnothing 8$, $\varnothing 10$ cassette loosely fastened into the basket
- Mechanism of the manual drive is powder paint coated
- Steel turned gear wheels, move the torque on the axle of the basket
- Transparent cover made of plexiglass
- Stainless steel flap valve 6/4"

4.2.4-cassette honey extractors with the power supply for 230 V or 12V

Honey extractors are intended both for the stationary and also migratory apiaries. Power supply from a battery (12 V) allows for centrifugation of honey without the access to the supply network 230V.

These honey extractors have the opportunity to work in auto and manual mode.

4.2.1 Technical parameters

- The drum is made of acid resistant stainless steel sheet 0H18N9, suitably reinforced and stiffened
- Honey extractors with a diameter from 720 to 900 have the drum and bottom made of the sheet with a thickness of 0.6mm. One drain/bottom outlet 6/4" of the stainless steel
- Basket made of acid-resistant stainless steel rods about diameters of $\varnothing 8$, $\varnothing 10$
- Cassettes are connected with special guides, which exclude jamming cassettes and are connected by springs, which enable the return to starting position
- The basket is supported by bearings in the two holders - upper and lower
- The safety lock is mounted in the beam of the honey extractor
- The cover is made from plexiglass
- 250W/24V engine in honey extractors with a diameter of 720 mm
- 280W/24V engine in honey extractors with a diameter of 800-900mm
- Honey extractors have a lower drive with belt transmission
- The stand is made of black steel covered with a layer of paint applied with the help of the electrostatic technique

4.3. 6-cassette honey extractors with the power supply for 230 V or 12V

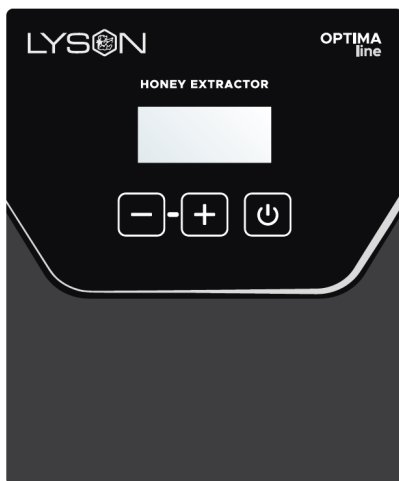
Honey extractors are intended both for the stationary and also migratory apiaries. Power supply from a battery (12 V) allows for centrifugation of honey without the access to the supply network 230V.

These honey extractors have the opportunity to work in auto and manual mode.

4.3.1. Technical parameters

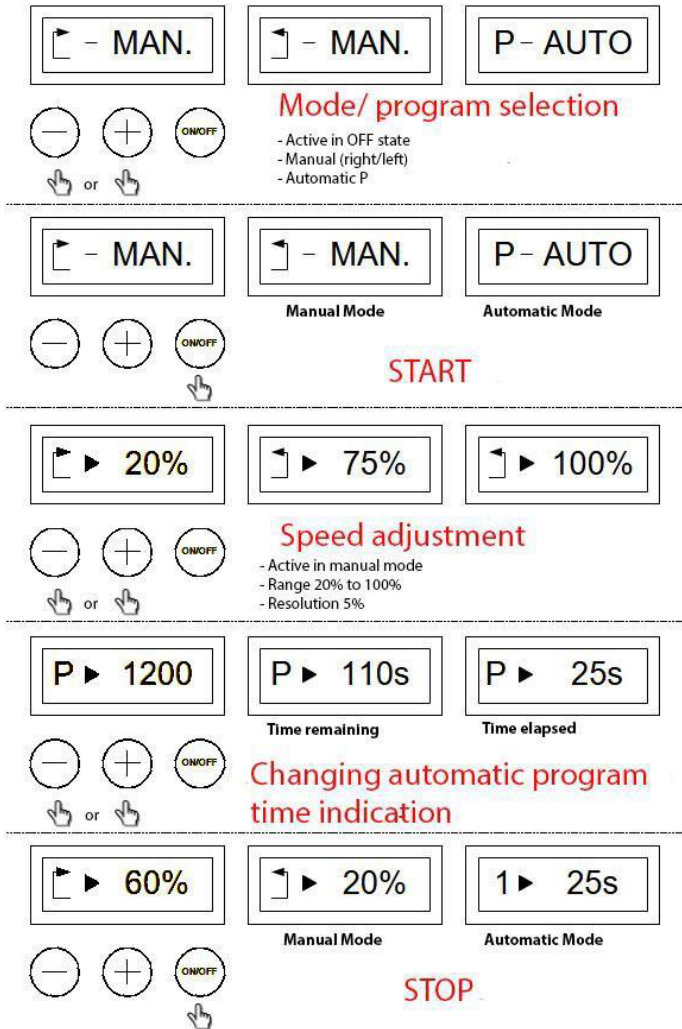
- The drum made of acid resistant stainless steel sheet 0H18N9, suitably reinforced and stiffened
- Drum and the bottom of honey extractors with a diameter of 800 mm are made of the sheet with a thickness of 0.6mm, stainless steel valve 6/4"
- Drum in honey extractors with a diameter of 1000mm made of the sheet with a thickness of 0.6mm, the bottom of the drum made of the sheet with a thickness of 0.8mm, two stainless steel valves 2"
- Basket made of acid-resistant stainless steel rods about diameters of $\varnothing 8$, $\varnothing 10$
- Cassettes are connected with special guides, which exclude jamming cassettes and are connected by springs, which enable the return to starting position
- Cassettes are connected with special guides, which exclude jamming cassettes and are connected by springs, which enable the return to starting position
- The basket is supported by bearings in the two holders - upper and lower
- The safety lock is mounted in the beam of the honey extractor
- The cover is made from plexiglass
- 350W/24V engine in honey extractors with a diameter of 800-1000 mm

4.4. Control in 4, 6-cassette honey extractors for 230V + 12V



The controller has a 0/1 switch used to enable and disable of honey extractor, button - "Emergency STOP" for an immediate stopping the honey extractor operation and fuses located under the 0/1 circuit breaker (**6,3A fuses**). The control panel is equipped with a navigation button – "PLUS", "MINUS" and "ON/OFF" button.

4.4.1. Controller functions and programming



4.4.2. Automatic stop, power-off, emergency stop and display contrast adjustment.

Automatic stop

The HE-01V controller is features an automatic stop function - stopping the rotation of the honey extractor basket. Automatic stopping means saving electricity when the honey extractor is left switched on unattended. The automatic stop function mentioned above operates on the principle of a clock - counting the time which has elapsed from the moment of switching on spinning or the last button pressed plus or minus. The function will activate when the motor is turned on and more than 20 minutes have passed since the rotation was initiated or the last button plus or minus was pressed.

Automatic power off (sleep mode)

The HE-01V controller features an automatic power-off function. Automatic switching off the power supply saves electricity. The mentioned function of automatic shutting off the power supply of the controller operates on the principle of a clock - counting the time which has elapsed from the moment when the operation of the honey extractor was stopped (stopping the cycle or rotation of the motor) or from the moment of the last pressing of the plus or minus button in the case when the honey extractor was stopped. The time required to activate the function is 15 minutes. After this time, the controller's display will indicate OFF! and after an additional time of 5 minutes the illumination of the display itself will be switched off. Waking up the controller from sleep mode will take place after pressing any button or EMG action (pressed mushroom button or open lid).

Emergency shutdown, opening of the cover

Detection of an open cover or EMG STOP button pressed condition will cause stopping of the basket rotation. The controller display will show C-STOP (lid opening) or E-STOP (EMG STOP button pressed) respectively.

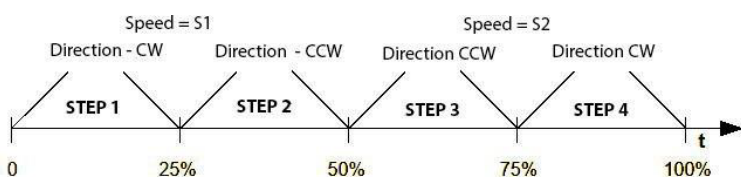
Controller display contrast adjustment

- 1.set program 6
- 2.open the cover
- 3.press ON/OFF button and keep it pressed for 10 seconds
- 4.adjust the contrast using the PLUS and MINUS buttons
- 5.after the contrast has been adjusted, release the ON/OFF button

4.4.3. Controller programming

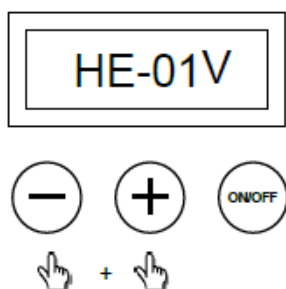
The HE-01v controller offers the possibility of setting up a customised 'P-AUTO' process cycle. For a cassette honey extractor, the cycle introduced consists of four steps which are identical in terms of duration. Steps 1 and 2, as well as steps 3 and 4, have identical centrifugation speeds.

HE-01V controller spinning cycle - cassette configuration:



The programming of your own cycles is done via the programming menu. To define your own cycle, enter the code entry mode and then, after entering code 1, start the programming mode.

Entering code input screen.



The procedure for accessing the code entry screen is illustrated in the figure above. While the controller is booting, i.e. displaying the manufacturer and type of device, press and hold the plus and minus buttons simultaneously.

There are two ways to force the controller boot sequence - by applying power to the controller or by lifting and closing the cover.

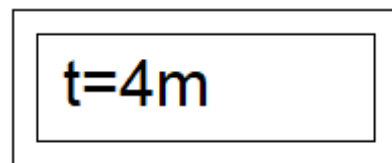
Release the plus and minus buttons when the word 'CODE' appears. Then, using the plus and minus buttons, set the appropriate code and confirm the selection with the ON/OFF button.



Programming the spinning cycle: CODE = 0001

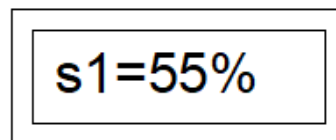
Programming of the cycle is done according to the illustrations below. Parameter settings are confirmed by pressing ON/OFF button briefly. The 'OK' message signals the end of programming - followed by a restart of the controller.

Programming - setting the total cycle time (setting 3 - 15 minutes). The duration of each of the four steps is the total cycle time divided by four - for a setting of 4 minutes, each step takes one minute.

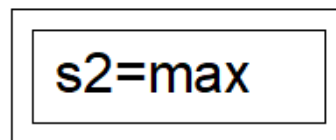


The programmed total cycle time does not account for the extra time of decelerating and accelerating the extractor's basket. This extra time is added automatically. The actual cycle time is therefore longer than defined by the parameter t = ...m.

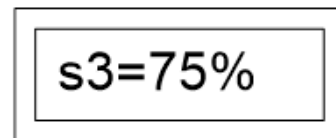
Programming - defining the speed for steps 1 and 2 of cassette honey extractors and speed for step 1 of radial honey extractors (setting 20 - 100%)



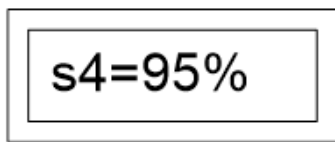
Programming - defining the speed for steps 3 and 4 of cassette honey extractors and the speed of step 2 of radial honey extractors (setting 20 - 100%). The setting of 100% is displayed as max.



Programming - defining the speed of step 3 of radial honey extractors (setting 20 - 100%). The setting is not available for cassette honey extractors.



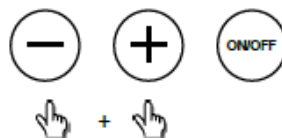
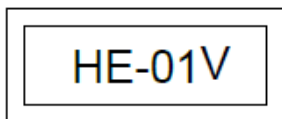
Programming - defining the speed of step 4 of radial honey extractors (setting 20 - 100%). The setting is not available for cassette honey extractors.



4.4.4. Controller setup menu

The controller's setup menu allows fine-tuning of the drive system operation to suit the workload.

Entering code input screen.



The procedure for accessing the code entry screen is illustrated in the figure above. While the controller is booting, i.e. displaying the manufacturer and type of device, press and hold the **plus** and **minus** buttons simultaneously.

There are two ways to force the controller boot sequence - by applying power to the controller or by lifting and closing the cover.

Release the **plus** and **minus** buttons when the word 'CODE' appears. Then, using the **plus** and **minus** buttons, set the appropriate code and confirm the selection with the **ON/OFF** button.



Setting parameters for the honey extractor drive system: CODE = 9876

Customisation of the honey extractor drive settings is done in the same way as programming the controller (see section 4.4.3. 'Controller programming'). Parameter settings are confirmed by pressing **ON/OFF** button briefly. The 'OK' message signals the completion of the configuration - after which the controller is restarted.

Parameter b1 (setting 10s - 90s, default 50s):

The first braking time of the cycle, the time needed to perform the reversal by braking from speed S1 (the lower speed defined for steps 1 and 2).

Parameter b2 (setting 10s - 90s, default 50s):

The second braking time of the cycle, the time it takes to perform a reversal by braking from speed S2 (the higher speed defined for steps 3 and 4) or S4, and to stop the basket after completing step 4.

Parameter bm (setting 1-10, default 8):

Scaling of the braking time, adjustment of the time required to stop the basket during an interruption in automatic or manual mode.

Parameter ms (setting 15 - 25, default 25):

Restriction of the maximum rotational speed of the motor (reduction of the spin speed reached).

Parameter d (setting 10 - 50, default 25):

Configuration of motor dynamics (acceleration rate).

Parameter mc (setting 100 - 240, default 200):

Motor launch current limitation, the higher the value the higher the motor launch current.

4.4.5. Error codes

A DIGIT 1 IN A SPECIFIC POSITION DENOTES THE PRESENCE OF AN ERROR	
E:1000	Internal controller fault
E:0100	"Minus" button pressed / locked
E:0010	"Plus" button pressed / locked
E:0001	"ON/OFF" button pressed / locked

4.4.6. Technical specifications of the controller

TECHNICAL SPECIFICATIONS OF THE CONTROLLER

Manual speed control mode: Yes, both directions.

Automatic spin mode: Yes, programmable time and spin speed.

Supply voltage: 12V DC $\pm 10\%$.

Max. continuous load capacity of the output: 12V / 10A.

Max. peak load of the output: 12V / 25A.

Automatic motor shutdown: Yes, after approx 20 minutes.

Protection against incorrect polarity of the supply voltage: Yes.

Emergency braking circuit: Yes, protected electrically.

Ambient temperature for operating controller: 0°C...40°C.

Storage temperature: 0°C...50°C.

5. Storage of honey extractors

After the honey harvest, the device must be thoroughly cleaned and dried.

Before starting the honey extractor, 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 0° C.

Before each new season, one should make an additional technical review, and in the event of fault detection, please contact the service centre.

6. Maintenance and cleaning of honey extractor



IMPORTANT!

Before starting maintenance, one should disconnect the honey extractor from the power supply source (accumulator/battery or feeder/power unit of the Łysoń company).

ATTENTION!!!

Device cover to be washed with soapy water at room temperature 25°C.

IMPORTANT!!!

Do not use any detergents with alcohol (causes cracking in plexi glass)

After the honey harvest, carefully wash the honey extractor with hot water with a small amount of preparations (authorised for use in the food industry) or using a pressure washer. When washing take particular care, to prevent moisture entering the engine and control of honey extractor (at the time of washing, they may be covered with waterproof material). When washing, one should also take care to prevent flooding bearings located under the drum, to do this, one should protect/shield the hole through which passes the axle of the basket inside the drum.

After washing, one should thoroughly rinse and dry the honey extractor.

6.1. Dismantling the basket in 4-cassette manual honey extractors

- Unscrew and remove the upper beam with covers
- Take out the basket

6.2. Dismantling the basket in 4/6-cassette honey extractors for 230V + 12V

- **Pull off the guard of pulleys**
- **Loosen and pull off the V-belt**
- **Loosen the bolt /screw on the pulley**
- **Unscrew and remove the upper beam with covers**
- **Take out the basket**

7. Disposal

The worn out product shall be subject to disposal as waste only in the selective collection of waste organised 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.

8. Warranty

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

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