MANUAL FOR

Cassette, Radial, Cassette-Radial honey extractors with controllers HES-02, HE-02H, HE-03

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The following manual encompasses the devices having the following codes:

RADIAL HONEY EXTRACTORS WITH BOTTOM DRIVES

W200700, W2007000, W2007000_P, W200800, W2008000, W2008000_P, M153R127P, M153R127A, M154R127Z, W201000_P, W2005000_P, W2006000_P

RADIAL HONEY EXTRACTORS WITH UPPER DRIVE

W20100G, W201000G, W200500G, W2005000G, W200600G, W2006000G

CASSETTE HONEY EXTRACTORS WITH BOTTOM DRIVES

W2013K0MR, W2013K00MR, W2013K00MR_P, W201300K00MR, W2018MR, W20180MR_P, W20540, W205400, W205400_P, W20560, W205600, W20550, W205500,W205500_P, W2013000KFMR, W201300AMR, W201300AMR_P, W205001_P, W20161, W201601, W201601_P, W20130KFMR, W20130AMR, W20130AMR_P, W205000_P, W20160, W201600, W201600_P

CASSETTE HONEY EXTRACTORS WITH UPPER DRIVE

W20501G, W205001G, W205001_P, W20500G, W205000G

RADIAL-CASSETTE HONEY EXTRACTORS WITH BOTTOM DRIVES

W200700K6D, W2007000K6D, W2007000K6D_P, W25000GK6LN_P, W25000GK6WL_P

RADIAL-CASSETTE HONEY EXTRACTORS WITH UPPER DRIVE

W2500GK6LN, W25000GK6LN, W2500GK6WL, W25000GK6WL

CASSETTE HONEY EXTRACTORS WITH PARTITIONS, BOTTOM DRIVE

W20300B, W203000B, W203000B_P, W2057B, W20570B, W20570B_P, W205301B, W2053001B, W2053001B_P, W205201B, W2052001B, W2052001B_P, W209901B, W2099001B, W2099001B_P, W20530B, W205300B, W205300B_P, W20520B, W205200B, W205200B_P, W20990B, W209900B, W209900B_P

DOUBLE CASSETTE HONEY EXTRACTORS WITH BOTTOM DRIVES

HEC800DC4LNS, HEC800DC4LNA, HEC1000DC4DS, HEC1000DC4DA, HEC1100DC6DS, HEC1100DC6DA

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1. General safety rules for using the honey extractor.

Prior to device usage initiation, refer to the following manual and act according the guidelines contained therein. The manufacturer shall not be held accountable for any damages caused by improper usage of the device or its improper handling

1.1 Usage principles

1. The honey extractor is intended to centrifuge honey from the frames.
2. The honey extractor must be washed thoroughly prior to usage with water containing slight amount of agents admissible to be used in cleaning the devices coming into contact with food or by means of a pressure washer, remember to protect the electronic components and the bearings against damping.!!!!

1.2 Electric safety

1. Power supply electric installation must be equipped with RCD with nominal tripping current In below 30 mA. Functioning of overcurrent circuit breaker must be checked periodically .
2. If non-detachable power supply cable gets damaged and must be replaced, it must be performed at a guarantor's or by a specialised repair centre or by a qualified person in order to avoid any threat. Do not operate the honey extractor when the power supply cable is damaged.
3. Prior to plugging in the device to the mains, check whether controller is switched off. 0/1 switch on the controlling panel should be in "0" position.
4. Check the honey extractor and the power source for nominal voltage compliance.
5. Be careful while connecting the device to the mains. Hands must be dry!
   The floor on which the extractor has been placed must be dry!
6. While activating the honey extractor, emergency STOP button must be switched off (it must be turned until it has jumped out)
   Pressing the emergency STOP button shall stop the extractor operation immediately.
7. While extracting, the lid of the honey extractor must be closed ! it is strictly forbidden to open the lid during extraction.
8. The honey extractor must not be dislocated during extraction.
9. The engine and controller must be protected against humidity (also during storage)
10. It is forbidden to pull the supply cable. The supply cable must be kept away from heat sources, sharp edges and it god technical state must be taken care of.

1.3 Usage safety

1. The following equipment is not intended to be used by persons with limited physical, sensory or mental capabilities (including children) or persons inexperienced or unfamiliar with that type of equipment unless the usage occurs under supervision or in line with the equipment operating manual provided by safety supervising persons. One must make sure that children do not play with the honey extractor.
2. In case of any damage to the honey extractor, in order to avoid the danger, the repairs may be performed solely by a specialist servicing centre or a qualified person.
3. It is forbidden to perform any maintenance works or repairs when the device is in operation.
4. All shields must be permanently attached to the honey extractor while operating it.

5. In case of any danger, emergency switch must be used at once. The honey extractor can be activated once the threat has been eliminated.
6. Devices are not intended to be used outdoors and may be operated indoors only.
7. Honey extractors equipped with heated bottom and/or drum have a digital temperature regulator (ranged 30-55º C). In case when the temperature is set above 60 º C, there is a risk of burns. That is why, special precautions must be taken here.
8. The device cannot be activated and stored with the ambient temperature below 0º C.
   Honey extractor cannot be activated when the ambient temperature drops below 5º C. When the honey extractor has been moved from a room with a lower temperature to a room with a higher temperature, prior to its activation one must wait until the device has achieved the ambient temperature.

It is forbidden to repair the device under operation

It is forbidden to remove the shields under operation.

2. HONEY EXTRACTOR MANUAL

2.1 General principles to prepare the honey extractor for operation

1. Place the honey extractor in the place specified for the purpose and kept in order and cleanliness.
2. Fix the honey extractor to the ground in order to avoid its displacement during operation. The ground must be well levelled, especially for cassette honey extractors.

2.2 Operating principles

1. Honey extractor is intended to centrifuge the honey from the frames.
2. Prior to extraction, the device must be washed thoroughly in line with the guidelines contained in the chapter **Honey extractor maintenance.**
3. Frame arrangement: Previously prepared frames must be placed inside the basket, with special attention paid to their arrangement. The extractor shall be properly chosen to the type of frames:
    1. In case of cassette honey extractor special attention must be paid to the frame arrangement , the frames must fit into the cassette, see ***Fig.1***
    2. In case of radial honey extractor, the upper bars of the frames must support on the lower and upper rod of the basket; ***Fig.2,if*** they are too short or too long, the honey extractor ad the basket may sustain damage!
    3. In case of both types, the frames shall be placed with the upper bar towards the drum, see ***Fig.1***

Warszawska ZW, WP frame constitutes an exception here, it must be placed with the upper bar directed downwards.
(WL, OS, D, LN. AP,) Markings*: WL-Wielkopolska, OS-Ostrowskiej, D-Dadant, LN – Langstroth, AP – Apipol*

Fig.1. Proper frame arrangement inside the cassette basket

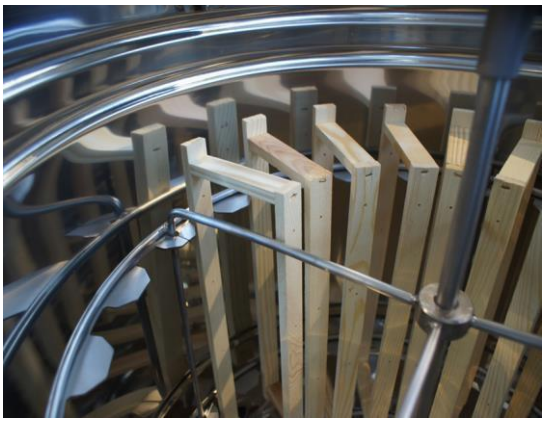


Fig. 2. Proper frame arrangement inside the radial basket

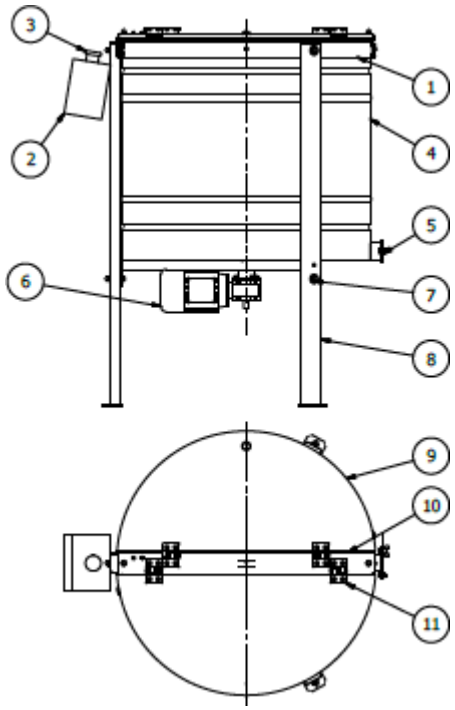
NOTE!
Erroneous frame arrangements may cause the damages excluded from the guarantee terms!

Prior to the honey extractor activation, one must :

- Make sure that the frames have been placed properly inside the extractor basket, in order to eliminate the risk of damages. (see point 5 – **Operating principles)**
- Check if the safety button is released
- Subsequently, put the plug into the socket, the controlling activation knob on the controlling cabinet shall be switched from “0” position to “1” position.
- Next, perform the honey extractor activation in line with the manual for the honey extractor controlling – see chapter 2.
- The first phase of extraction shall be performed slowly in order to prevent the honeycombs from breaking out. Special attention must be paid to the so called “young frames”.
- Spinning basket shall not be blocked by the honey accumulating inside the drum. If that is the case, the extractor must be stopped to prevent its damaging. Once the honey has drained to the containers, spinning can be restarted.
- Containers intended for the honey are to placed under the drain valves
- During spinning the drain valves must be opened in order to let the honey drain freely.

3. Honey extractors with bottom drives

3.1. Diagram for the honey extractor with bottom drive



1. Rim
2. Extractor controller
3. Emergency switch
4. Extractor drum
5. Drain valve
6. Engine with gear motor
7. Screws to fix the legs
8. Extractor legs
9. Extractor lid
10. Beam
11. Extractor hinges

3.2. Characteristics for honey extractors with bottom drives

3.2.1. Radial extractors with bottom drives

Radial honey extractors are characterised by a possibility to place a big number of frames inside the basket. Frame placing in a radial arrangement makes the spinning occur in one direction. Bottom drive is applied to honey extractors with the diameters of 1000 mm and 1200 mm and to 4-cassette honey extractors with power supply of 230 V

Engine in radial honey extractors

- 1000 – 0,75 kW/400V/50Hz
- 1200 – 0,75/kW/400V/50Hz

3.3. Cassette honey extractors with bottom drives

- Cassette honey extractor are suitable for bigger apiaries. They are characterized by a low number of cassettes inside the basket. The spinning cycle occurs in two directions, owing to the guides installed, there is no need to rearrange the cassettes manually and their jamming is excluded.

3.4. Cassette honey extractors with bottom drive and the partitions

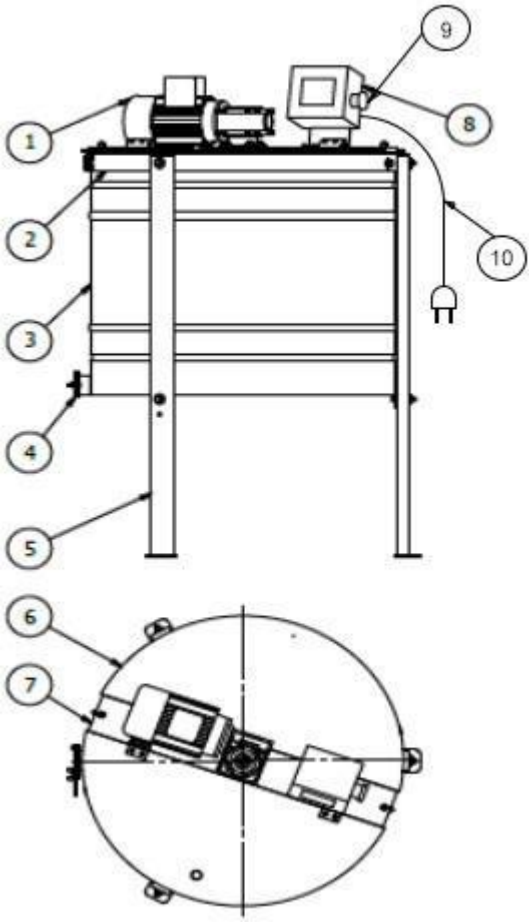
By the introduction of the partitions made of stainless steel plates, we can increase the number of cassettes inside the extractor. The cassettes are placed one on the other but owing to the partitions, the honey discharging from the honeycombs during spinning does not get into the adjacent honeycomb but flows along the partitions.

3.5. Technical parameters for the honey extractor with bottom and upper drives

- Drum:
  - Stainless and acid-resistant steel plate 0H18N9,
- Basket:
  - Made of stainless and acid-resistant steel rods ø 8, ø 10,
  - Basket placed on bearings, with upper and lower housing
  - In case of honey extractors with upper drives, the basket on the bearings in lower casing, the gear engine remains the upper housing
- drains:
  - 1x6/4 (from Ø 720 to Ø 900)
  - 2x 2” (from Ø 1000 to Ø 1200)
- Transparent lid, made of metaplex
- Time lock,
- Conical bottom, reinforced,
- Stand stable and easy to dismantle, powder coated, which strengthens the coating resistance
- Transmission type: worm gear
- Cassette honey extractors from 4 to 8 cassettes, stainless steel rod ø 3, ø 5 meshing 20x40
- Cassette honey extractors from 12 to 20 cassettes + partitions, stainless steel rod ø 3, ø 6 meshing 20 x 40

4. Honey extractors with upper drives

4.1. Diagram for honey extractor with upper drive



1. Gear motor with an engine
2. Rim
3. Extractor drum
4. Drain valve
5. Extractor legs
6. Extractor lid
7. Extractor beam
8. Extractor controller
9. Emergency switch
10. Power supply cable

4.2. Characteristics for the honey extractors with upper drives

4.2.1. Radial honey extractors with upper drives

Radial honey extractors are characterised by a possibility to place a high number of frames inside the extractor basket. Placing the frames in a radial arrangement makes the spinning occur in one direction only. The drive is applied in the honey extractors with diameters from 720mm to 900mm

Engine in radial honey extractors

- 720 – 0,37kW/400V/50Hz
- 800 – 0,37kW/400V/50Hz
- 900 – 0,55kW/400V/50Hz

4.2.2. Cassette honey extractors with upper drives

- Cassette honey extractor are intended for bigger apiaries. The spinning cycle occurs in two directions and owing to the guides installed, there is no need to rearrange the cassettes manually and the possibility of their jamming is excluded

Engines in cassette honey extractors

- 720 – 0,37 kW/400V/50Hz – 4-cassette honey extractors.
- 800 – 0,37 kW/400V/50Hz-extractors with 4 cassettes, 6 cassettes.

5. Controlling in cassette or radial honey extractors with upper or bottom drives

5.1. Semi-automatic controlling

- HHoney extractor with this controller may work in a manual mode (2 programmes) and automatic mode. In manual mode speed and direction may be set in manual mode with a potentiometer
- pAutomatic mode is factory-set

5.2. Automatic controlling

The HE-02H automatic honey extractor controller offers a selection of two manual programmes (left-right), ten automatic programmes preset for a specific diameter of the honey extractor by default, but with the possibility of modifying them according to the user's needs, ten automatic programmes with step-by-step defined programmes. The controller is also equipped with a counter of the amount of hours of operation, which can be read out when the controller is turned on. Additionally, it can notify us with an alarm if the honey extractor cover is open or if the emergency button is pressed. In both cases, the device cannot be started.

5.3. Advanced automatic controlling

- has 8 fully programmable automatic cycles
- 2 automatic manual cycles
- big (4,3”),coloured TFT graphic display with energy saving LED backlight and the resolution of 480x272 pixels
- handling through 8 ergonomically arranged controlling buttons
- simple and intuitive user’s interface using high-contrast graphics to provide high visibility
- graphic editor for spinning cycles – equipped with the function of parameter auto-correction
- 2 independent extractor operating time meters

- Advanced diagnostic and controlling functions , they monitor operating parameters for the controller any equipment attached.
- Cooperation with a top-class vector converter made by Mitsubishi.

ADDITIONAL OPTIONS FOR HONEY EXTRACTORS:

- HEATED DRUM
- HEATED BOTTOM

6. Manual for the controllers in the honey extractors with bottom drives

6.1. Manual to handle semi-automatic controlling

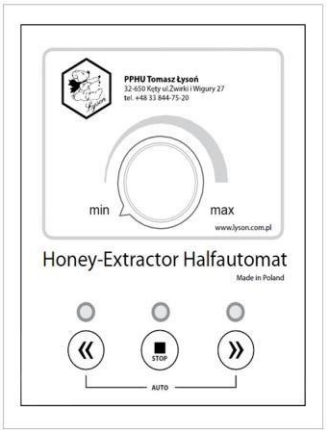


Fig. 1

Prior to plugging the honey extractor to the mains, make sure if “0/1” switch on the controller casing is in “0” position .

Semi-automatic controlling (inverter) -
Honey extractor with this type of controlling has an automatic and manual operating mode.

AUTOMATIC PROGRAMME:

The controller has one automatic programme, factory-set. Starting the automatic mode occurs when two side buttons are pressed at the same time, as in ***Fig. 2***

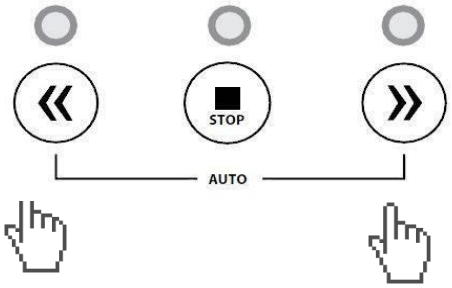


Fig. 2. Starting the automatic mode

MANUAL PROGRAMME:

Prior to starting work with manual mode, set the knob (speed regulator) in position ***„min”*** as in ***Fig. 3***

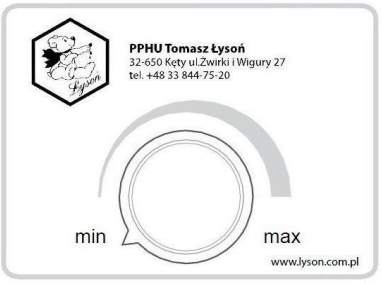


Fig.3. Knob (speed regulator)

By pressing the button – arrow left - (***Fig. 4***) or arrow-right (***Fig. 5***) we start the extractor basket. By means of a knob (speed regulator) we increase the basket rotational speed.

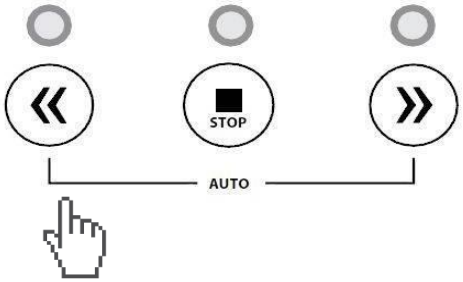


Fig.4. Basket rotation to the left

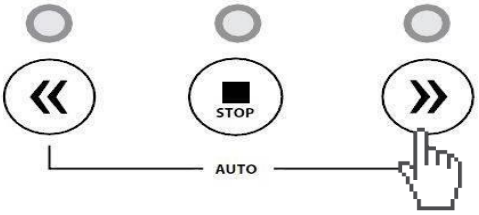


Fig.5. Basket rotation to the right

In order to change the rotation direction, press ***„STOP”***

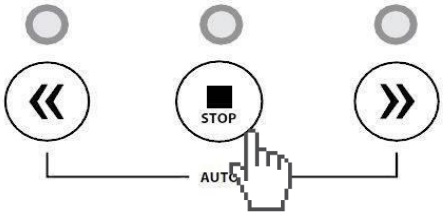


Fig.6. „STOP” stopping the basket

And we select the rotation direction by means of the buttons shown in ***Fig. 4 and Fig.5***

Setting the honey extractor's rotations

Semi-automatic controller HES-02 has a possibility to change the direction of basket operation, i.e. "only to the right" or "to the left and to the right"

1. Turn the knob to position max. (**Photo.1**).

Photo 1.

2. Activate the controller with "0/1" switch. When the diodes start to flash, press and hold STOP button (**Photo 1**) until the right diode lights up or both green diodes light up (**Photo 2)**

A B

Photo 2. *Cassette mode (A) and radial mode (B)*

3. In order to change the rotation direction, press button „**arrow to the left**" until the green diode signalling the demanded configuration lights up:

– Green diode to the right lit up: radial honey extractor mode: rotations to the right only (**Photo 3**)

Photo 3. *Radial mode (only right rotations)*

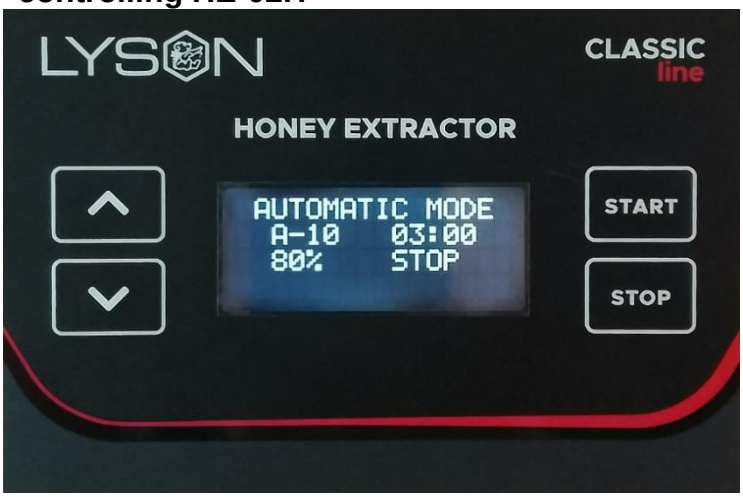
– Both green diodes lit up (from the left and right sides), cassette honey extractor mode: rotations to the right and left (**Photo 4**)

Photo 4. *Cassette mode (left and right rotations)*

4. In order to confirm the selection of the rotation mode, press the button „**arrow to the right**". (**Photo 5**)

Photo 5. *Confirmation of the rotation type*

6.2. Manual for handling the automatic controlling HE-02H



1. Programming

Using the **UP ARROW / DOWN ARROW** buttons, select the desired mode of operation of the honey extractor and confirm the selection with the **START** button. The **START** button is also used to enable editing of the selected parameter. The **STOP** button stops the operation and disables editing of the controller settings. There is a choice of manual mode - spinning CW, manual mode - spinning CCW, 10 automatic modes pre-programmed for a specific diameter of the honey extractor by default, but with the option to customise them according to the user's needs **(A-1 to A-10)**, ten auto programmes with step-by-step programming **(B-1 to B-10)** and a configuration and settings mode **(SETTINGS).**

When the manual mode is selected, the **UP ARROW / DOWN ARROW** buttons change the speed of the honey extractor's basket. The **STOP** button stops the rotation.

The bar at the bottom of the display additionally indicates the set speed value
(16 lit fields represent 100% of the spinning speed setting).
When the automatic mode is selected, the **UP ARROW / DOWN ARROW** buttons change the speed of the honey extractor's basket. The **STOP** button switches off the spinning cycle. The **START** button pressed during the cycle pauses counting time, pressing again resumes counting.

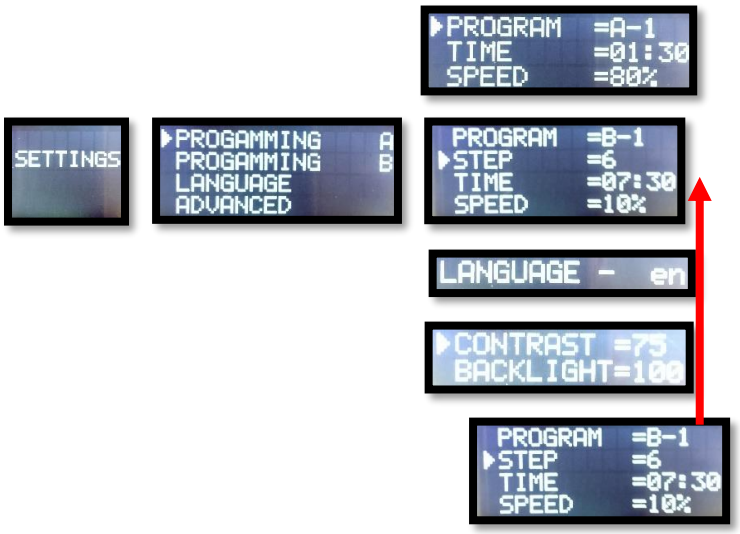
STOP

START

PAUSE

The bar at the bottom of the display indicates the progress of the extraction cycle
(8 lit fields represent 50% progress of cycle completion).

The setup and configuration mode allows: programming the spinning cycle, setting the language for the display interface and configuring the brightness and contrast of the display.



To program the spinning cycle of group A:
-select the automatic cycle (programme) number (A-1 to A-10),
- if necessary, activate the special programme option (for programmes with 6 steps),
-Set the total cycle duration,
-Set the maximum spinning speed of the last step,
-select the direction of spinning (clockwise or counterclockwise).

The controller will automatically split the cycle into the appropriate number of steps (4 or 6) and set the appropriate spinning time and speed to each of the steps.

To program the spinning cycle of group B:
- select the automatic cycle (programme) number (B-1 to B-10),
- select the number of the program step for which the parameters are to be adjusted,

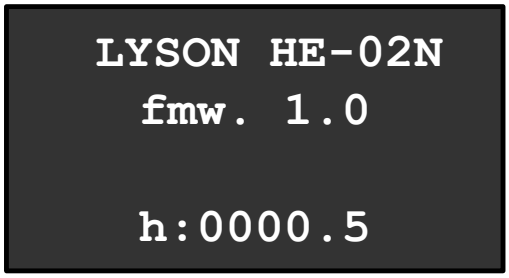
- set the start time of the selected step,
- set the parameters for the step (speed, spin direction),

Notes on programming of GROUP B spin cycles:
The first step of the spinning cycle is the **START** of the programme - the start takes place in the first second of each spinning cycle, therefore the time parameter for the first step is not subject to editing and is omitted in the programming menu.
The last - seventh - step of the spinning cycle is the **STOP** of the programme - only the time at which the spinning cycle is terminated can be defined. For the last step the parameters: speed and spin direction are omitted in the programming menu.
The minimum time interval between two consecutive steps of the centrifuging cycle is 5 seconds.

Special programmes - for extracting thick/dense honey.
When modifying the programme number (programming mode), select the type of modified programme by pressing the START button. The selection of a special programme is indicated by the corresponding symbol (+ / % / ✷)- displayed next to the programme number.

(No symbol) - standard programme
(Symbol +) - programme with extended time.
Stabilised operating time for steps 1 and 2, for a 6-step programme extended by 100% compared to the duration of the other steps.
(Symbol %) - programme with increased speed.
Speed for stabilised operation for steps 1 and 2, for the 6-step programme increased from 30% to 40% of the maximum speed limited by the F100% parameter.
(Symbol ✷) - programme with increased speed and time.
Speed increased from 30% to 40% of maximum speed limited by parameter F100%. Stabilised operating time for steps 1 and 2, increased by 100% compared to the duration of the other steps.

Counter of the amount of hours of operation can be seen while the controller is booting



Messages displayed when the emergency button is pressed or the extractor's cover is opened.

2. Error codes
Detection of a malfunction/error preventing further operation of the controller is signalled by the 'ERROR STOP' message and the error code indication.
Controller restart is allowed after: switching off the power supply, removing the fault and switching on the system power supply again.

0 - controller internal fault 0
1 - controller internal fault 1
2 - **DOWN ARROW** button pressed / stuck
3 - **UP ARROW** button pressed / stuck
4 - pressed / stuck **START** button
5 - **STOP** button pressed / stuck
6 - communication error with inverter
7 - inverter error

3. Technical specifications

- Number of manual programmes: 2.
- Number of Auto programmes: 20.
- Maximum duration of Auto mode:1800s (30 minutes)
- Speed setting range in manual mode: 10% - 100%
- Speed setting range in Auto Mode A 50% - 100%
- Speed setting range in Auto Mode B 10% - 100

6.3. Manual for handling the premium controlling

1. Manual mode operation.

Manual mode operation is characterised by the engine spinning in one direction that has been previously selected and the user can influence the speed of spinning. In order to commence manual mode operation , by means of the buttons

- „**ARROW UP**"
- „**ARROW DOWN**"
- „**ARROW LEFT**"
- „**ARROW RIGHT"**,

One must select the relevant programme: P:1 or p:2 spinning in a selected direction and subsequently it must be activated by means of the START button.
Stoppage is possible any time – by pressing the STOP button.

By default, the time of operation in manual mode is not defined , i.e. the honey extractor drum shall spin until deactivated by pressing the STOP button.

Such a solution remains the most frequent standard, however in some cases the timer function may appear to be helpful.

The timer function is a delay in spinning deactivation, i.e. operation stoppage, once the set up time has expired.

In order to activate the timer function, with one out of two manual mode programme selected (programme 1 or 2) and activate operation (START state), the button „**ARROW UP"** or „**ARROW RIGHT"** must be pressed .

One-touch pressing of the „**ARROW UP"** button increases the time which must flow until stoppage by 60 seconds. One-touch pressing of the „**ARROW RIGHT"** button increases the preset time by 15 seconds. Respectively7, the buttons „**ARROW DOWN/ ARROW LEFT"** shall shorten the preset time.

The maximum time to be set equals 900 seconds. Once the timer function has been activated, an icon of the stopwatch shall appear on the manual mode screen, below it the time until the operation stoppage will be displayed.

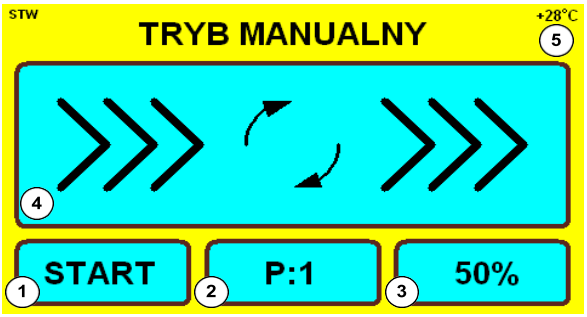
First, press the „**START**" button, next by pressing „**ARROW UP**" or „**ARROW DOWN"** activate the Timer.

PAUSE function – it is activated when the controller is in START state and the „**START"** button is pressed. In manual mode, the pause function stops the counting of time until deactivation, i.e. it "freezes" the timer function. If the timer has not been activated, activation of the pause function does not influence the device operation. Pause deactivation shall occur once the „**START"** button is pressed again or by pressing the „**STOP"** button.

In case when the lid opening is detected or when the emergency button is pressed, manual mode operation stops and a relevant warning message appears on the screen.

In case when a serious error in controller operation is detected (controller error, fitting error, inverter error), manual mode operation stops and an error report shall appear on the screen.

When 30 seconds of idle state is detected, the controller will activate the screensaver function automatically. Screen-saving function shall display the slides presenting Łysoń company. The extractor manufactures has an option to deactivate the screen-saving function (see: manufacturer-entering the access code)



Field	Function
1	Indication **START / STOP** – indicates the current operating state of the controller.
2	Programme indication – displays the number of the currently selected programme.
3	Speed indication – scaled as the percentage of the maximum spinning speed.
4	Indication of the spinning direction.
5	Indication of the temperature measured inside the controller casing.

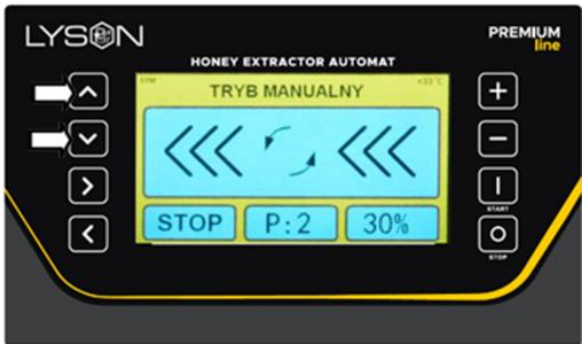


Photo 1 by means of the button*: „**ARROW UP**" or „**ARROW DOWN**" we select PROGRAM P:1 or P:2 (basket rotation direction)afterwards, we press the START button, as in **Photo 2***

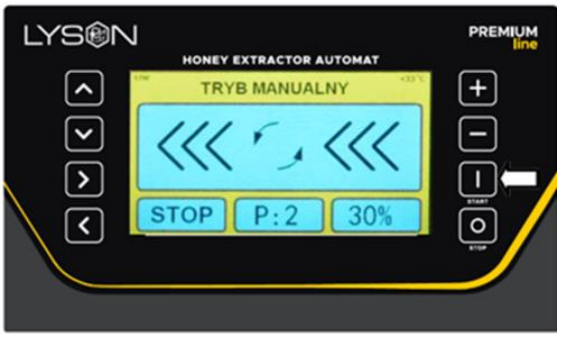


***Photo 2** The **„START"** button- Activation of the honey extractor*

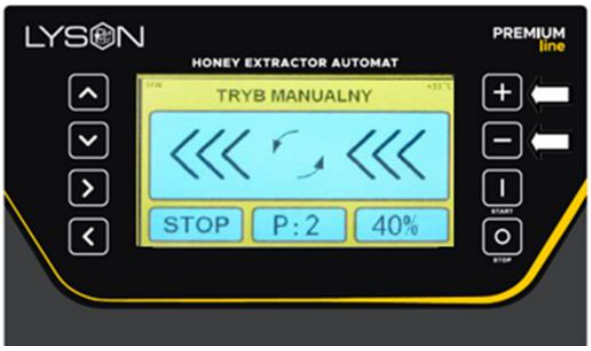


Photo 3 *„**PLUS**" or „**MINUS**" increasing or decreasing the basket rotations.*

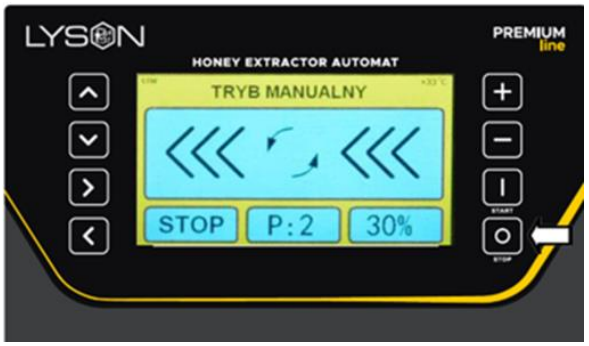


Photo 4 The ***„STOP"** button – stopping the basket rotations.*

2. Automatic mode operation

Automatic mode operation is work when the controller carries out one out of 8 programmed spinning sequences. Each sequence consists of seven steps. Each step is specified by the activation time, setup spinning speed and direction. The last, seventh, step is defined by a single parameter – cycle stopping time. .

In order to start automatic mode operation, by means of the buttons:

- **„ARROW UP"**
- **„ARROW DOWN"**
- **„ARROWN LEFT"**
- **„ARROW RIGHT"**

a relevant programme must be selected and subsequently activated by pressing the **„START”** button. Stopping the programme is possible at any time – by pressing the **„STOP”** button.

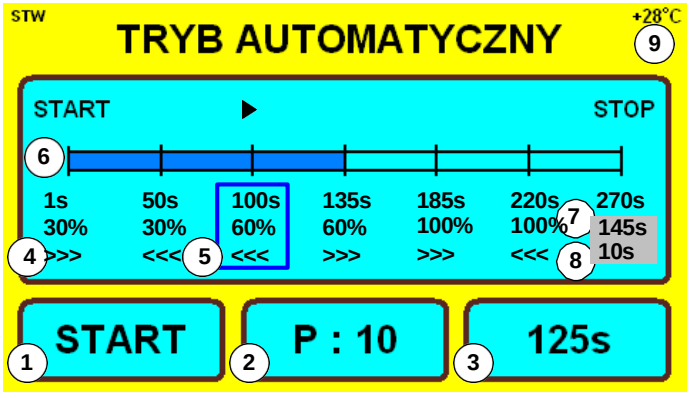
Duration of each automatic mode cycles may be temporarily extended or shortened. With one out of 8 automatic mode programmes selected and the cycle stopped (state STOP), the button **„PLUS”** or **„MINUS”** must be pressed. One-touch pressing the PLUS button extended the cycle duration by 10%. Respectively, one-touch pressing the MINUS button shortens each step by 10%. Such a modification remains temporary as after controller restarting or changing the programme number time parameters will return to the previously programmed values.

Modification regarding the cycle step duration is calculated as rounded until 1 second and gets activated when the tie limits for cycle steps are not exceeded.

PAUSE function – it is activated when the controller is in START state and the **„START”** button is pressed. In automatic mode, the pause function stops the counting of time until deactivation, i.e. it “freezes” the timer function. If the timer has not been activated, activation of the pause function does not influence the device operation. Pause deactivation shall occur once the **„START”** button is pressed again or by pressing the **„STOP”** button.

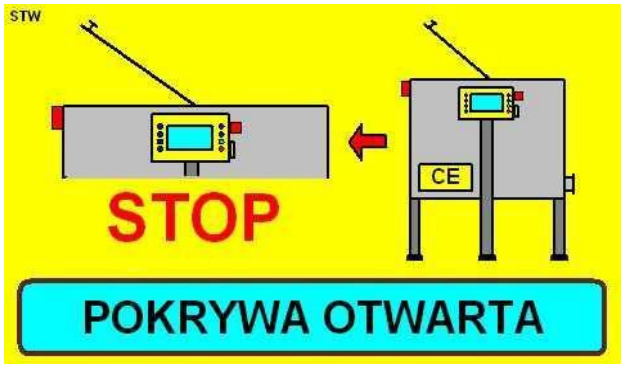
In case when the lid opening is detected or when the emergency button is pressed, automatic mode operation stops and a relevant warning message appears on the screen.In case when a serious error in controller operation is detected (controller error, fitting error, inverter error), automatic mode operation stops and an error report shall appear on the screen

When 30 seconds of idle state is detected, the controller will activate the screensaver function automatically. Screen-saving function shall display the slides presenting Łysoń company. The extractor manufactures has an option to deactivate the screen-saving function (see: manufacturer-entering the access code)



Field	Function
1	Indication START / STOP – indicates the current operating state of the controller. START – spinning cycle in progress, STOP extractor’s drive stopped, cycle not performed.
2	Programme indication – displays the number of currently selected programme.
3	Time indication: In START state – displays the time that has flown since starting the programme . In STOP state – displays the entire programme duration time.
4	Step parameter indication – time for step activation, spinning speed and direction
5	Indication of the currently performed cycle step. Indication active only in START state.
6	Progress indication – increased with the completion of subsequent cycle steps – active in START state. This indication is active in START state only.
7	Time indication – displays the time until the termination of the currently performed spinning cycle. Indication active only in START state.
8	Time indication – displays the time that is left until the termination of the currently performed cycle step. Indication active only in START state
9	Indication of the temperature measured inside the controller casing.

Warning messages.



Lid open – the message displayed after the extractor lid has been opened.

Emergency button pressed – the message displayed once the emergency stoppage button has been pressed

The aforementioned messages will not be displayed when:

- The controller is in the system menu or in any item of the system menu
- The controller displays the error report screen
- There is an error in the electric connection of the connectors

2. The controller's system menu

Entering the controller's system menu.
While the controller is activated, the message "Press the **„STOP"** button in order to enter the configuration mode" shall appear in the bottom part of the screen. While the said message is displayed , the **„STOP"** button must be pressed and held. The button may be released after the system menu of the controller has appeared on the screen.
Photo 6

Photo 5 *Entering the programming menu*

Photo 6. *Controller's menu*

Photo 7

By means of the buttons **„ARROW UP/ ARROW DOWN"** a relevant item in the menu is selected (specified by a red arrow).
By means of the **„START"** button selection is confirmed – entering the relevant function ***Photo 8***

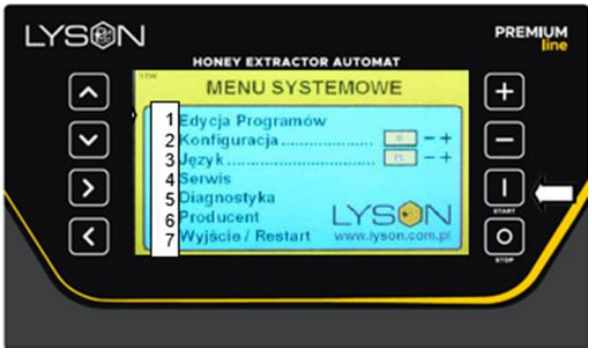
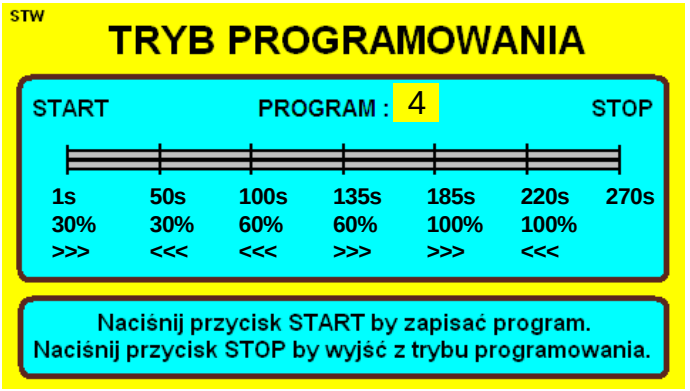


Photo 8

- **1 . Programme editing.**

Item in the menu called Programme editing makes it possible to create your own frame spinning cycles. While establishing your own spinning cycle the following is to be set: the programme number, time, spinning speed and direction. Currently changed (edited) parameter is highlighted in yellow. The buttons presented in the table below are used on the programme editor screen:



item	Button	Function
1	↑	Navigating button, serves to select a parameter to be changed. Highlighted item moves upwards.
2	↓	Navigating button, serves to select a parameter to be changed. Highlighted item moves downwards.
3	→	Navigating bottom, serves to select a parameters to be changed. Highlighted item moves to the right.
4	←	Navigating button, serves to select a parameter to be changed. Highlighted item moves to the left.

5	PLUS	The button to change (increase) the value of the parameter to be modified. In case of modification of the spinning direction, pressing the button alternately changes the direction. .
6	MINUS	The button to change (decrease) the value of the parameter to be modified. In case of modification of the spinning direction, pressing the button alternately changes the direction. .
7	START	Pressing the button makes the currently edited programme be stored.
8	STOP	Pressing the button allows to exit the programme editing mode. If changes in the programme edited have not been stored before, they will be lost.

- **2. Configuration.**

Item in the menu called Configuration allows to set up the proper honey extractor type (radial or cassette). Setting the extractor type is performed on two levels. Firstly, by means of **„PLUS"** and **„MINUS"** buttons the relevant extractor type is selected, next the choice is confirmed by pressing the **„START"** button.
Choice confirmation makes the pre-defined spinning programmes be loaded – defined by the extractor's manufacturer.
Changing the extractor type is possible once the relevant access code has been entered – see: manufacturer – entering the access code. Without a code been entered, the current configuration is specified by grey colouring and the arrow to show the menu item choice avoids the configuration field.

- **3. Language.**

Item in the menu called Language, allows to set the language for the honey extractor user's interface. Changing the language is possible after the access code has been entered (access code: 1111).
Without the code been entered, the current language is specified by grey colouring and the arrow to show the menu item selection avoids the field Language (number 3).

The code should be entered by entering option number 6.
- set the cursor to item number 6, Manufacturer.
- confirm by the **„START"** button.
- the field to enter the code is displayed.
- By means of the buttons **„PLUS"** and **"MINUS"** change the digit values.
- By means of the button „**ARROW LEFT"** and „**ARROW RIGHT** " a place to introduce a change can be set.
- Confirm by pressing the **„START"** button

- **4. Service.**

The item in the menu called Service allows to move to the screen of the honey extractor drive operating time meter. The meters show the time in minutes. The upper meter can be reset (by pressing the **„MINUS**" button).

The lower meter displays the total time for which the honey extractor has operated since manufacturing. Resetting this meter is possible once the relevant access code has been entered. Press the **„STOP**" button to return to the system menu.

- **6. Manufacturer**

In point 6, the protection codes are to be entered in order to make the changes in the controller settings.

- **7. Exit / Restart**

The item in the menu which allows to exist the controller configuration mode and to continue extractor's operation.

Error report

HE-03 controller is equipped with advanced mechanism for error detection. Detecting any error triggers the emergency stopping of the engine and the error report screen appears.

The error report screen is displayed permanently, hence it is necessary to disconnect the power supply, remove the error source and restart the controller.

Section	Description	Indication	ERROR DESCRIPTION
1	CPU	OK / ERROR	Indication ERROR means an error in data memory of the main controller processor. Its most frequent reason is a damage caused by electrostatic discharges.
2	RAM	OK / ERROR	Indication ERROR signals the detection of data cohesion error in RAM memory of the controller. Such a situation is possible in case of controller's operation within the environment characterised by excessive level of disturbances. They may be brought about by: damaged cable connections, damaged inverter, damaged inverter's casing. Other reasons for this error to occur may be damaging the main processor

			module due to electrostatic discharges.
3	Vcpu [V]	OK / ERROR	Indication ERROR means that the measured controller module supply voltage exceeded the permissible range. Such a situation means a failure or overloading of a 5V feeder, controller's failure or damaging a cable connection feeder <> controller.
4	Vbus [V]	OK / ERROR	Indication ERROR means that the voltage measured on the data transmission connection to the inverter exceeded the permissible range. Such a situation may indicate an inverter failure, controller failure or a gap in the cable connection inverter <> controller.
5	TEMP [°C]	OK / ERROR	Indication ERROR means that the temperature measured inside the controller's casing exceeded the permissible range 5 °C to 60 °C. This may be caused by inverter overloading, extractor's operation within temperatures exceeding the permissible range..
6	STATUS	OK / ----	
7	↑	OK / ERROR	Indication ERROR means the detection of the button having been pressed – directly after the power supply has got connected. If such a situation has not been a deliberate user's action, one may suspect a button damage – e.g. pressing and blocking caused by excessive pressing force
8	↓	OK / ERROR	Description – see above.
9	→	OK / ERROR	Description – see above.
10	←	OK / ERROR	Description – see above.
11	PLUS	OK / ERROR	Description – see above.
12	MINUS	OK / ERROR	Description – see above.
13	START	OK / ERROR	Description – see above.
14	STOP	OK / ERROR	Description – see above.

Technical parameters

CONTROLLER'S TECHNICAL PARAMETERS STEROWNIKA	
The number of manual modes:	2 - spinning R/L
Setting range for manual cycle duration:	15 – 900 seconds or ∞
Time regulation step in manual cycle:	15 seconds
Speed regulation range in manual cycle:	10% - 100%, step 5%
The number of automatic modes (cycles):	8
The number of steps in a cycle:	7
Range of setting the automatic cycle duration:	60 - 960 seconds (16 minutes)
The step of time regulation in automatic cycle:	5 seconds
The range of sped regulation in automatic cycle:	10% - 100%, step 5%
Display:	4,3" TFT, LED backlighting, resolution 480x272
The number of languages served:	32
keypad:	8 buttons
Power supply:	230V
Protection:	10A
Environmental conditions	
Temperature inside the controller under operation:	5°C…60°C
Ambient temperature for the controller in storage:	1°C…60°C
Air humidity for the controller under operation:	Max 65% at 25°C

Languages served

item	abbrev ISO639-1	language
1.	EN	English
2.	PL	Polish
3.	RU	Russian
4.	DE	German
5.	FR	French
6.	CS	Czech
7.	SK	Slovakian
8.	RO	Romanian
9.	BG	Bulgarian
10.	AR	Arabic
11.	ES	Spanish
12.	SV	Swedish
13.	FI	Finish
14.	NO	Norwegian
15.	TR	Turkish
16.	IT	Italian
17.	HU	Hungarian
18.	EL	Greek
19.	NL	Dutch
20.	DA	Danish
21.	UK	Ukrainian
22.	BE	Byelorussian
23.	LT	Lithuanian
24.	LV	Latvian
25.	ET	Estonian
26.	PT	Portuguese
27.	SR	Serbian
28.	HR	Croatian
29.	BS	Bosnian
30.	SL	Slovenian
31.	ZH	Chinese
32.	JA	Japanese

7. Storing the honey extractors

Once the honey harvesting has terminated the device is to be washed thoroughly.
Prior to the honey extractor start-up, in case when it has been transferred from a room with a lower ambient temperature to a room with a higher one , one must wait until the device has reached the ambient temperature. The device is to be stored in dry rooms with the temperature above 0º C.
Before every season, an additional technical inspection must be performed and n case when any defects have been detected , a service centre must be contacted

.

8. Maintenance and cleaning the honey extractors

IMPORTANT!

Prior to starting the maintenance, the plug must be taken out!

After honey harvesting time honey extractor shall be washed thoroughly with hot water containing slight quantities of agents accepted to be used in devices intended to come into contact with food or by means of a pressure washer. Be careful during the washing and prevent dumping the honey extractor engine or controller (they may be covered with water-resistant materials)
While washing, the bearings placed under the drum cannot be flooded. Therefore, the orifice through which the basket axis goes must be covered inside the drum. After washing, the honey extractor must be rinsed with pure water and dried.

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)

8.1. Dismantling the basket in honey extractor with bottom drives

- Unscrew the engine and the transmission
- Remove and pull out the wedge from the basket axis
- Unscrew the bolts fixing the beam with the plexiglass and remove it
- Remove the basket

8.2. Dismantling the basket in honey extractors with upper drives

- Unscrew the bolts fixing the beam
- Unscrew the bolt fixing the plexiglass
- Remove the upper beam with the plaxiglass
- Remove the basket

9. Recycling

Worn-out product must be removed as waste only within selective waste collection organised by the Network of Communal Electric and Electronic Waste Collecting Points. A customer is entitled to return the used equipment to the electrical equipment distributor network, at least free of charge and directly, if the device to be returned is of proper type and serves the same purpose as the newly purchased device

10. Guarantee

Product purchased from “Łysoń’ company are encompassed by the manufacturer’s guarantee.
The guarantee period does not include the controlling elements and electric drive and fittings. Such ones are encompassed by a two-year guarantee. A receipt or a VAT invoice is issued for each product purchased.