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INSTRUCTION MANUAL

Diagonal, radial and cassette honey extractors with manual, electric and manual-electric drive OPTIMA

Instruction Manual applies to honey extractors with codes:

Diagonal honey extractors:
W2029M, W2030, W2032, W2026, W2033, W2039, W2027M, W224MS, W225MS, W226MS, W227MS, W225MSF, W226M, W2029_OM ,W224MS_IC, W2027M_IC, W229MS, W224MSF, W2027MF, W226MS, W227MS
Radial honey extractors:
W229, W229E, W230, W231, W231MS_I, W230_12V_110V, W230_S, W268E12, W229E_CS, W255
Cassette honey extractors:
W222M, W223S, W221MS, W222M_I, W223S_I, W221MS_I, W223S_I_IC, W2018MK

Instruction Manual

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optima line

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 of honey extractor

1.1.1 The honey extractor is intended for centrifuging honey from the frames.
1.1.2. 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!

IMPORTANT!: Honey extractor has a power supply 12V and 230V. Each type of power supply should be used separately that is, If we are working at 12V it is forbidden to connect the honey extractor to the 230V supply network. In order to change the way of power supply, one should stop the honey extractor, disconnect from the power supply used and switch power supply, eg.from 12V battery to 230V and then switch on the device!

1.2 Electrical safety

1. Electrical installation powering the device must be equipped with RCD (residual current device) with a rated tripping current In no higher than 30mA. Check the function of the RCBO (residual current operated circuit-breaker with integral overcurrent protection) periodically.
2. If the power cord or connection cord is damaged, 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.
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.

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. The lid/cover of honey extractor during centrifugation must be closed! It is forbidden to open the lid of honey extractor during centrifugation.

7. Do not move/rearrange/transpose of honey extractor during centrifugation.

8. One should protect the motor and control against moisture; (also during storage).

9. It is forbidden to pull the power cord.

10. 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, or when troubleshooting or when the honey extractor is connected to the supply network!

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 0º C.
As well as do not switch on the honey extractors when the ambient temperature is lower than 5º 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.

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, kept in the adequate cleanness.
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 first use and after the honey harvest, carefully wash the honey extractor in accordance with the guidelines in point - **Maintenance of honey extractor**.

4. Place the previously prepared frames in a basket of honey extractor, paying particular attention to their proper position. Errors in positioning frames may cause damage, which is not covered by the warranty!

5. Before starting the honey extractor, one should:
- make sure the frames are well placed in a basket of honey extractor,
- verify that the honey extractor cover is closed,
- then, switch on the plug in the socket, and on the control box switch the ”0/1” button which switches on the control, from ”0” position to ”1”.

Then, please switch on the honey extractor, in accordance with the instructions of the control – see chapter 2.

6. The first phase of the centrifugation should be done slowly, to prevent the possible breaking off the honeycombs. Particular attention should be paid to so-called “young frames”.

» In manual and electric honey extractors, by going in manual mode, one should switch off the power supply of the honey extractor and you may throw off the V-belt from the pulley, then the manual mechanism will be run lighter (because the engine connected with the help of V-belt will not put the resistance).
One should turn the crank of manual drive clockwise.
In order to brake the basket, one should turn the crank counterclockwise.

8. After centrifuging one side of frames (it applies to diagonal honey extractors), you must stop the honey extractor:
» in the case of honey extractor with manual drive,
one should turn the arm of crank in counterclockwise and hold in this position
until completely stopping the basket;
» in the case of honey extractor with the electric drive,
press the STOP button and wait until a complete stopping the basket.

Attention! Frames can be rearranged only at the moment of completely stopping the basket!

9. After stopping the basket of honey extractor, one should reverse the frames by 180 degrees and centrifuging the other side of the honeycomb.
The frames are centrifuged in two steps. First, at lower speed of the basket, both sides of the honeycomb. Later, at higher rpm of the basket, both sides of the honeycomb again (it applies to diagonal honey extractors).

10. The basket during centrifugation should not be blocked by honey remaining in the drum, if such a situation will appear, you must stop the honey extractor, in order to prevent its damage. After flowing down honey in containers, centrifugation can be restarted.

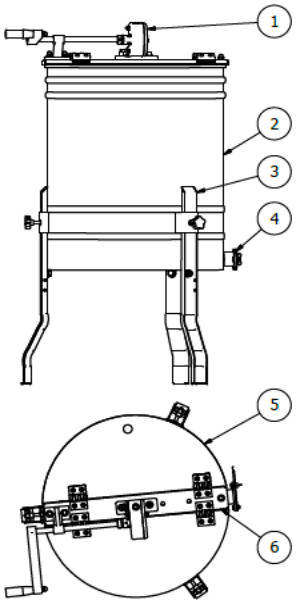
11. Under drain valves one should place containers intended for honey.
During the centrifugation, drain valves should be open, so centrifuged honey can flow down freely.

3. Characterization of diagonal honey extractors of the OPTIMA series

3.1. OPTIMA manual honey extractor

These honey extractors are designed for smaller apiaries as well as for hobbyist beekeepers. They are characterized by their compact size as well as easy operation. The cone-shaped design of the bottom allows the honey to flow freely. The self-assembly honey machines are packaged in cardboard boxes,

3.1.1. Schematic of the manual honey extractor



Parts:
1. Manual drive
2. Drum

3. Legs
4. Stainless steel drain valve
5. Covers
6. Top Bar

3.1.2. Technical parameters of manual drive honey extractors:

- The drum is made of 0,6 mm thick acid-resistant stainless steel sheet. Appropriate placement of grooves further strengthens the drum structure.
- Conical bottom made of 0.6 mm acid-resistant stainless steel sheet
- Diagonal basket made of stainless, acid-resistant rods 2 mm and 5 mm thick arranged in a manner that protects the frames from breaking out during spinning. The basket with the mesh size of 20x20 mm seated in a sleeve bearing.
- The cassette basket is made of stainless, acid-resistant bars with a thickness of 8 mm and flat bars 15x3 mm, seated in a sleeve bearing. The basket is equipped with 4 cassettes with a mesh size of 20x40mm, made of stainless, acid-resistant bars of 3 and 4mm thickness. Cassettes manually rotatable around their own axis.
- Stand made of carbon steel with a coat of paint applied electrostatically.

Manual drive with a brake:

- Drive mounted on the top bar of the honey extractor allows for operation in circumstances where electricity is not available housing of the manual drive mechanism made of powder-coated metal.
- Steel turned gears, transfer torque onto the basket axis
- Transparent cover made of metaplex, 3 mm thick, protects the user from the contact with the rotating basket and honey from dirt
- Stainless steeldrain valve

3.1.3 Assembly instructions for the OPTIMA manual honey extractor

Components: Set includes wrench: 13-17, allen key: 6

Fixing the legs:

a. knob for fixing the legs of the honey extractor - 6 pcs.

b. bolt M8 x20 - 6 pcs.

c. legs -3 pcs.

Fixing the covers:

d. front cover made of plexiglass with five holes - 1 pcs.

d1. back cover made of plexiglass with four holes - 1 pcs.

e. screw for fixing the handle to the plexiglass - 1 pcs.

f. cover handle - 1 pcs.

g. cover hinge - 4 pcs. plastic

h. washers - 8 pcs.

i. M5x30 allen tapered screw - 16 pcs.

j. washer 5 widened for plexiglass nuts - 8 pcs.

j1. washer 5 for top bar nuts - 8 pcs

k. nut for allen tapered screw for plexiglass and bar M5 - 16 pcs

wrench 8/10 – 1 pcs.

Allen key 3 – 1 pcs..

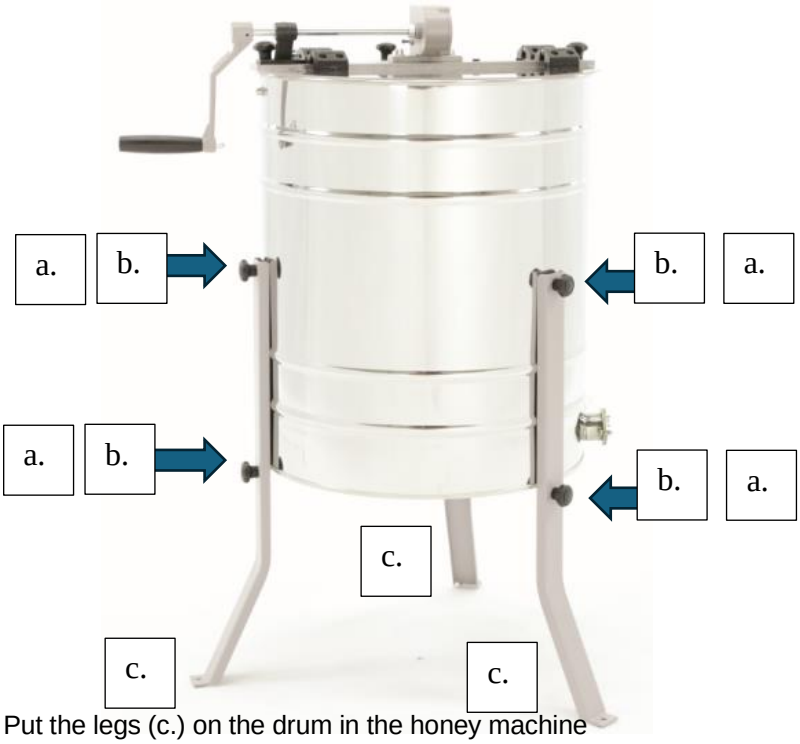
Fixing the crank handle

l. allen screw M8x110 – 1 pcs.

m. handle – 1 pcs.

n. acorn nut M8 – 1 pcs.

Fixing the legs



Put the legs (c.) on the drum in the honey machine

Tighten the knobs (a.) with the bolts (b.) according to the above diagram

Fixing covers

Fixing the hinges to the bar

Tighten 4 sets of hinges to the bar

i.  i.

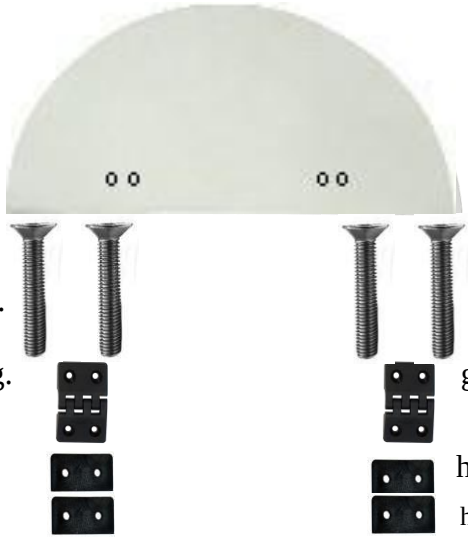
g.  g.

j1.  j1.

k.  k.

Screwing the covers to the bar

Before fixing the plexiglass, remove the protective film

d1. 

cover made of plexiglas

j.  j.

k.  k.

i. 

Fixing the handle

d.

f.

e.

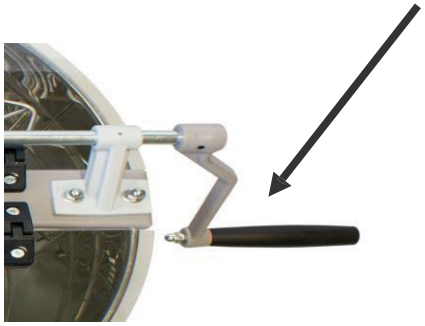
Fixing the crank handle

Using the Allen screw M8x110 mm and

acorn nut M8, we screw down the crank handle.

l. m. n

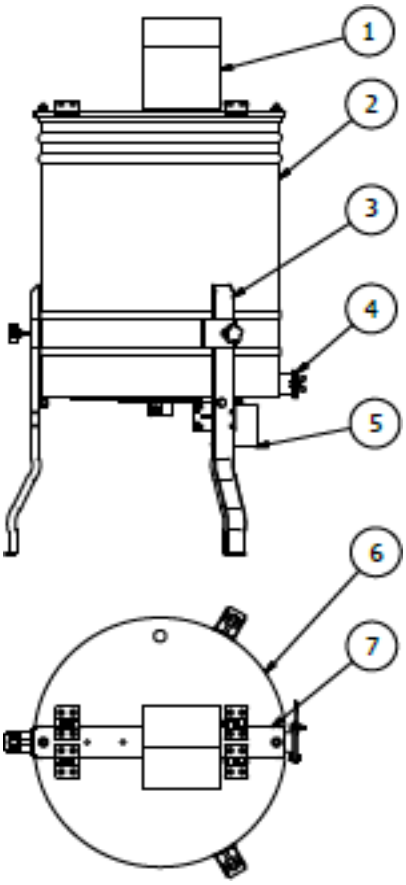
Schematic of the electric honey extractor



3.2 OPTIMA electric honey extractor

This honey machine has a controller providing infinitely variable speed adjustment. These honey extractors are designed for smaller apiaries as well as for hobbyist beekeepers. They are characterized by their compact size as well as easy operation. The cone-shaped design of the bottom allows the honey to flow freely. The self-assembly honey machines are packaged in cardboard boxes.

3.2.1 Schematic of the manual honey extractor



Parts:

1. Controller
2. Drum
3. Legs
4. Stainless drain valve
5. Motor
6. Covers
7. Top bar

3.2.1. Technical parameters of electric drive honey extractors: :

- The drum is made of 0,6 mm thick acid-resistant stainless steel sheet. Appropriate placement of grooves further strengthens the drum structure.
- Conical bottom made of 0.6 mm acid-resistant stainless steel sheet
- Diagonal basket made of stainless, acid-resistant rods 2 mm and 5 mm thick arranged in a manner that protects the frames from breaking out during spinning. The basket with the mesh size of 20x20 mm seated in on two bearing mounts . The upper one in the bar and the lower one in the bottom of the drum.
- The cassette basket is made of stainless, acid-resistant bars with a thickness of 8 mm and flat bars 15x3 mm, seated in 2 bearing mounts. The basket is equipped with 4 cassettes with a mesh size of 20x40mm, made of stainless, acid-resistant bars of 3 and 4mm thickness. Cassettes manually rotatable around their own axis.
- The radial basket is made of acid resistant stainless steel rods 8 mm thick . The basket is seated on two bearing mounts in the top bar and the bottom of the drum . The basket features laser-cut frame mounts made of acid-resistant stainless steel 2 mm thick .
- Stand made of carbon steel with a coat of paint applied electrostatically.
- the device is powered with 230 V AC voltage or 12 V DC voltage
- Microprocessor-based SDD -2DP chip, motor speed controller.
- Motor 250 W
- belt drive
- transparent cover made of metaplex, 3 mm thick, protects the user from the contact with the rotating basket and honey from dirt
- Stainless steel drain valve

3.2.3 Assembly instructions for the OPTIMA electric honey extractor

Components: set includes wrenches: 8-10; 10-13; 13-17; allen key 3.

Fixing the legs:

a. knob for fixing the legs of the honey extractor - 6 pcs.

b. bolt M8 x20 - 6 pcs.

c. legs -3 pcs.

Fixing the covers:

d. front cover made of plexiglass with five holes - 1 pcs.

d1. back cover made of plexiglass with four holes - 1 pcs.

e. screw for fixing the handle to the plexiglass - 1 pcs.

f. cover handle - 1 pcs.

g. cover hinge - 4 pcs. plastic

h. washers - 8 pcs.

i. M5x30 allen tapered screw - 16 pcs.

j. washer 5 widened for plexiglass nuts - 8 pcs.

j1. washer 5 for top bar nuts - 8 pcs

k. nut for allen tapered screw for plexiglass and bar M5 - 16 pcs

Fixing the controller :

l. optima honey extractor controller - 1 pcs.

l1. cap nut M8 - 2 pcs.

l2. washer 8 - 4 pcs.

l3. bolt M8x25 - 2 pcs.

Fixing the motor:

m. motor for Optima honey extractor - 1 pcs.

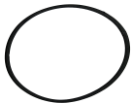
m0. bolt M6x16 - 6 pcs.

m1. self-locking nut M 6 - 2 pcs.

m2. widened washer 6 - 6 pcs.

m3. washer 6 - 2 pcs.

m4. spring washer 6 - 4 pcs.



n. V-belt - 1 pcs.

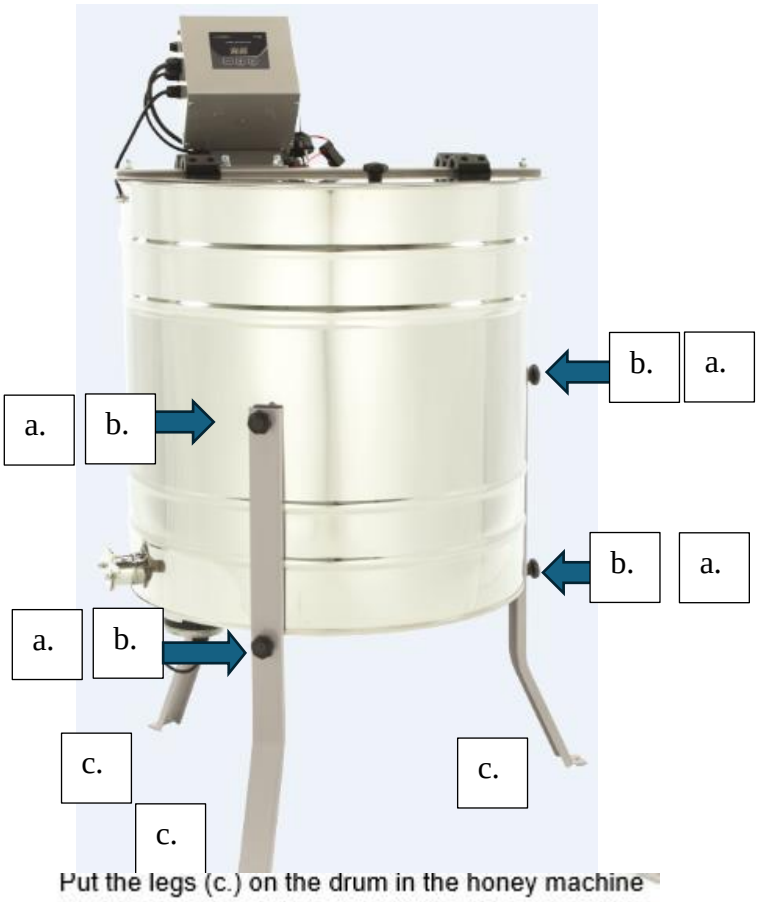
Fixing the wire

o. clip fixing the plug – 2 pcs.

o1. clip attaching the cable to the honey machine - 3 pcs.

o2. adhesive holder - 3 pc

Fixing the legs:

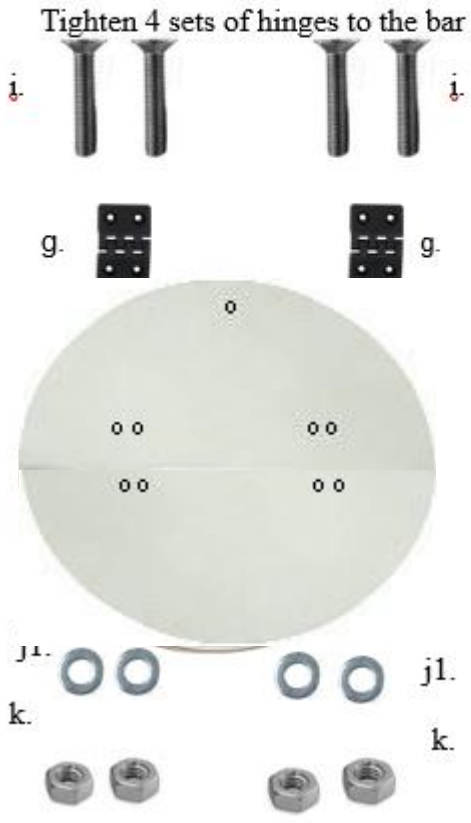


Put the legs (c.) on the drum in the honey machine

Tighten the knobs (a.) with the bolts (b.) according to the above diagram

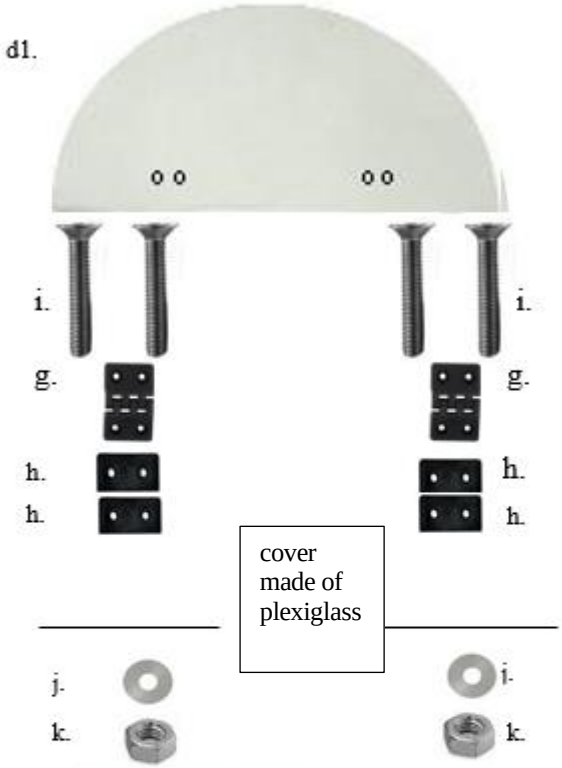
Fixing covers

Fixing the hinges to the bar



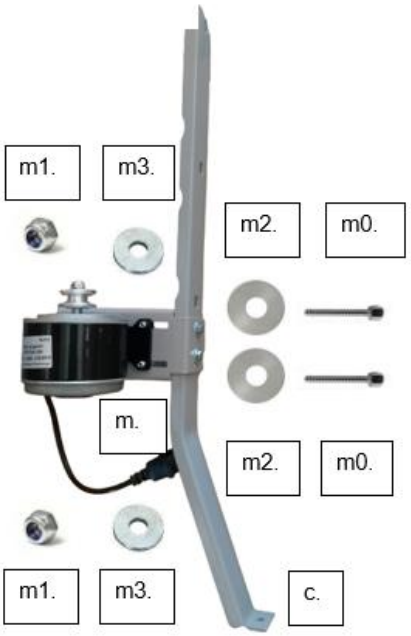
Screwing the covers to the bar

Before fixing the plexiglass, remove the protective film



Fixing the handle

Fixing the motor



After fixing the legs in place, proceed to mount the motor according to

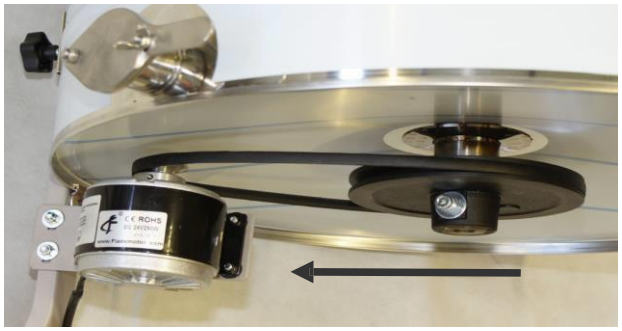
schematics ↓ Machine's back

Step 1

Use vertical holes to align the pulley in the honey extractor with the small pulley of the motor. It means to move the motor up or down until it is aligned horizontally, put on the V-belt (i.) and tighten the motor to the leg with M6x16 mm screws (h0)

I. Installation of the V-belt and alignment setting

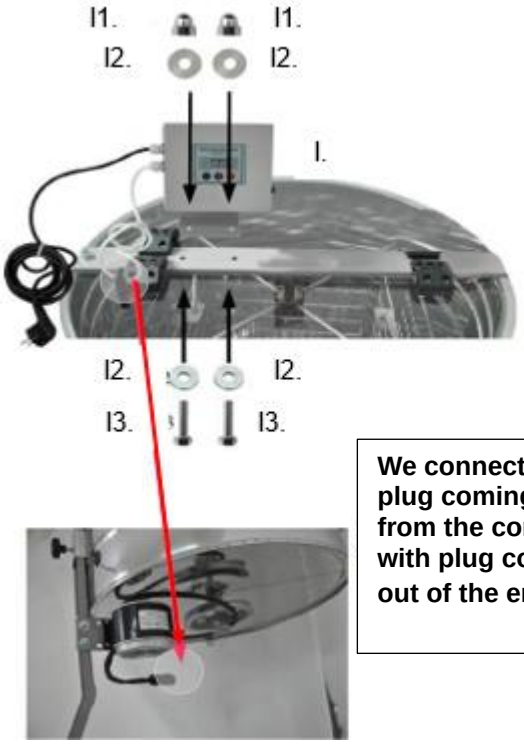
II. V-belt tensioning and motor fixing



Step 2

Use the horizontal holes to tension the belt. Push the motor to the leg of the honey extractor until the belt is tensioned. Tighten 4 screws M6x20 mm (h1) firmly.

Connecting the controller



We connect the plug coming out from the controller with plug coming out of the engine.

Fixing the wire

Using plastic zip ties, attach the cable to the honey extractor.

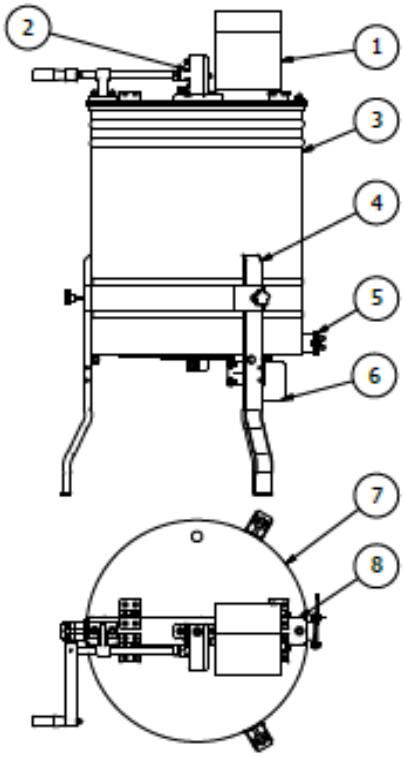
Honey extractor when assembled, ready to use

3. Characterization of diagonal honey extractors of the OPTIMA series

3.1 Diagonal honey extractor with manual-electric drive

Honey extractor has control enabling smooth speed adjustment. It is intended for smaller apiaries, as well as for the hobbyists-beekeepers. They are characterized by compact size as well as easy operation/handling. The design of the bottom of the honey extractor in the shape of the cone enables free flowing down the honey. Honey extractors for self-assembly are packed in cartons (cardboard boxes).

3.3.1. Diagram (scheme) of honey extractor with manual-electric drive



LEGEND:
1.Control of honey extractor
2.Manual drive of honey extractor
3.The drum of honey extractor
4.Legs of honey extractor
5.Draining valve 5/4”
6.Engine of the honey extractor
7.Covers of the honey extractor
8.Beam of the honey extractor

3.3.2. Technical parameters:

- Drum made of acid-proof stainless steel with a thickness of 0.6mm
- The conical/tapered bottom made of 0.6 mm sheet
- The diagonal basket made of acid-resistant stainless steel rods, with a thickness of 2 mm and 5 mm embedded in bearings mounted in the drum

- Cassette basket is made from stainless steel rods, acid resistant a thickness of 8 mm and flat bars 15x3 mm, embedded in bearings mounted in the drum. It is equipped with 4 cassettes with a mesh size 20x40mm, made of acid-resistant stainless steel rods, with a thickness of 3 and 4mm. Cassettes rotated manually around its axis.

- Honey extractor is powered by the voltage of the supply network 230 V or DC voltage 12 V
- SDD-2DP system used, advanced, microprocessor speed controller of the DC motor.
- Engine - 250 W
- Belt transmission

- The manual drive mechanism housing made of metal powder-coated
- Steel gears, turned, move the torque on the axle of the basket
- Transparent cover, made from plexiglass with a thickness of 3 mm
- Stainless steel draining valve – 5/4”

3.1.3. Assembly instructions of diagonal and radial manual-electric honey extractor of the OPTIMA series.

The components: The kit (set) includes the spanners/wrenches: 8-10; 10-13; 13-17 and Allen wrench 6

Fastening the legs:

a. knob for fixing the legs of the honey extractor - 6 pcs.

b. bolt M8 x20 - 6 pcs.

c. legs -3 pcs.

Fixing the covers:

d. front cover made of plexiglass with five holes - 1 pcs.

d1. back cover made of plexiglass with four holes - 1 pcs.

e. screw for fixing the handle to the plexiglass - 1 pcs.

f. cover handle - 1 pcs.

g. cover hinge - 4 pcs. plastic

h. washers - 8 pcs.

i. M5x30 allen tapered screw - 16 pcs.

j. washer 5 widened for plexiglass nuts - 8 pcs.

j1. washer 5 for top bar nuts - 8 pcs

k. nut for allen tapered screw for plexiglass and bar M5 - 16 pcs

Fixing the controller :

l. optima honey extractor controller - 1 pcs.

l1. cap nut M8 - 2 pcs.

l2. washer 8 - 4 pcs.

l3. bolt M8x25 - 2 pcs.

Fixing the motor:

m. motor for Optima honey extractor - 1 pcs.

m0. bolt M6x16 - 6 pcs.

m1. self-locking nut M

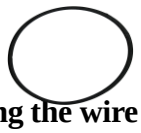
6 - 2 pcs.

m2. widened washer 6 -

6 pcs. m3. washer 6 - 2

pcs.

m4. spring washer 6 - 4 pcs.



n. V-belt - 1 pcs.

Fixing the wire

o. clip fixing the plug – 2 pcs.

o1. clip attaching the cable to the honey machine - 3 pcs.

o2. adhesive holder - 3 pc

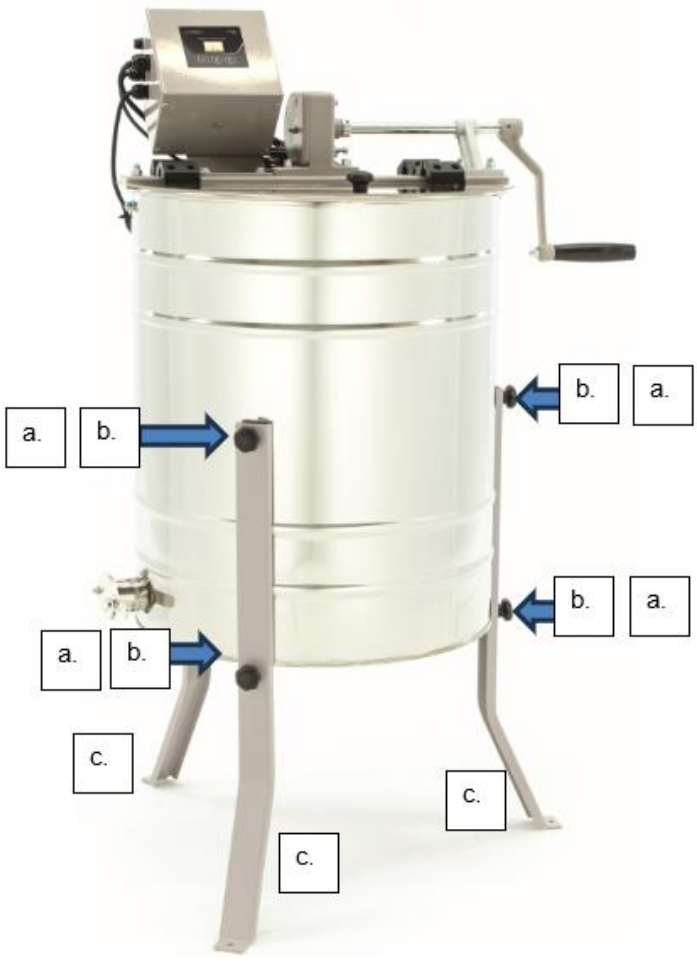
Fixing the crank handle

p. allen screw M8x110 – 1 pcs.

q. handle – 1 pcs.

r. acorn nut M8 – 1 pcs.

Fixing the legs:

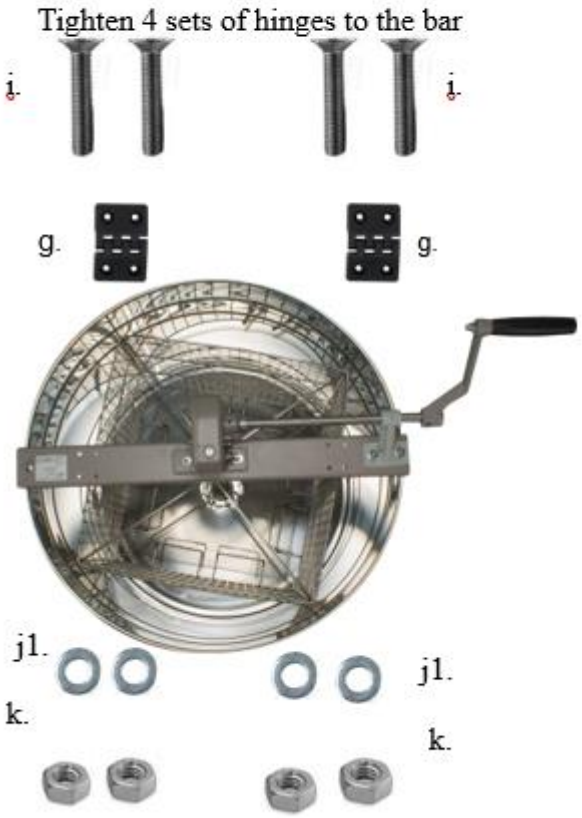


Put the legs (c.) on the drum in the honey machine

Tighten the knobs (a.) with the bolts (b.) according to the above diagram

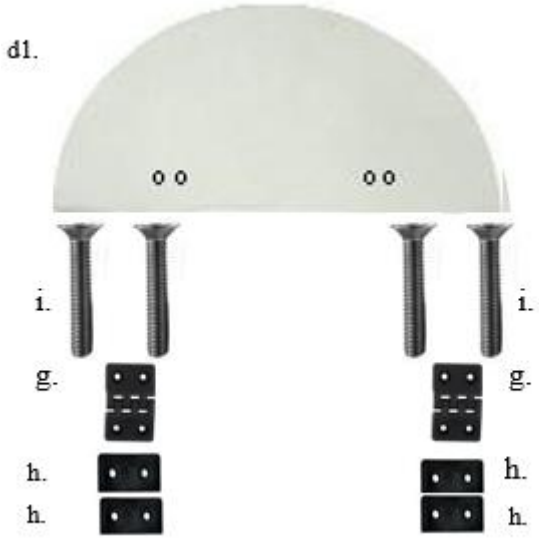
Fixing covers

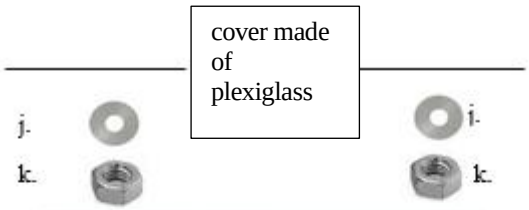
Fixing the hinges to the bar



Screwing the covers to the bar

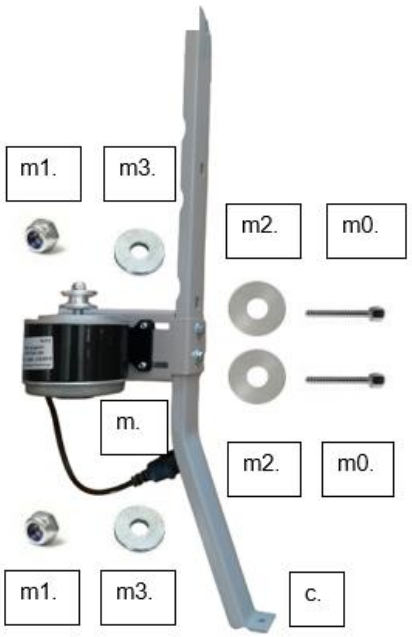
Before fixing the plexiglass, remove the protective film





Fixing the handle

Fixing the motor



After fixing the legs in place, proceed to mount the motor according to schematics

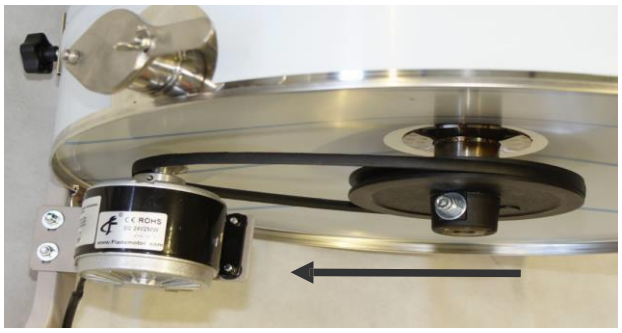
Machine's back

Step 1

Use vertical holes to align the pulley in the honey extractor with the small pulley of the motor. It means to move the motor up or down until it is aligned horizontally, put on the V-belt (i.) and tighten the motor to the leg with M6x16 mm screws (h0)

I. Installation of the V-belt and alignment setting

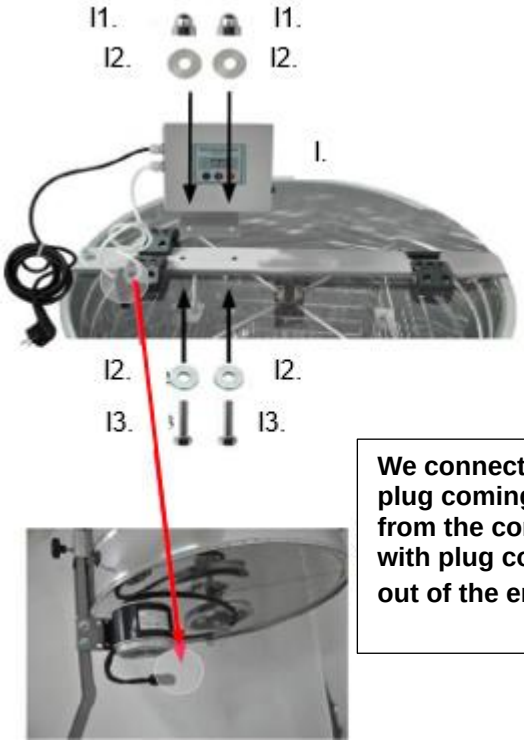
II. V-belt tensioning and motor fixing



Step 2

Use the horizontal holes to tension the belt. Push the motor to the leg of the honey extractor until the belt is tensioned. Tighten 4 screws M6x20 mm (h1) firmly.

Connecting the controller



We connect the plug coming out from the controller with plug coming out of the engine.

Fixing the wire

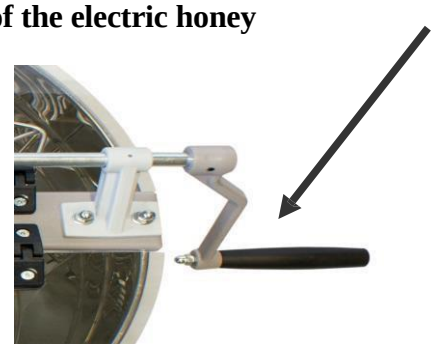
Using plastic zip ties, attach the cable to the honey extractor.

Fixing the crank handle

Using the Allen screw M8x110 mm and acorn nut M8, we screw down the crank handle.

p. q. r

Schematic of the electric honey extractor

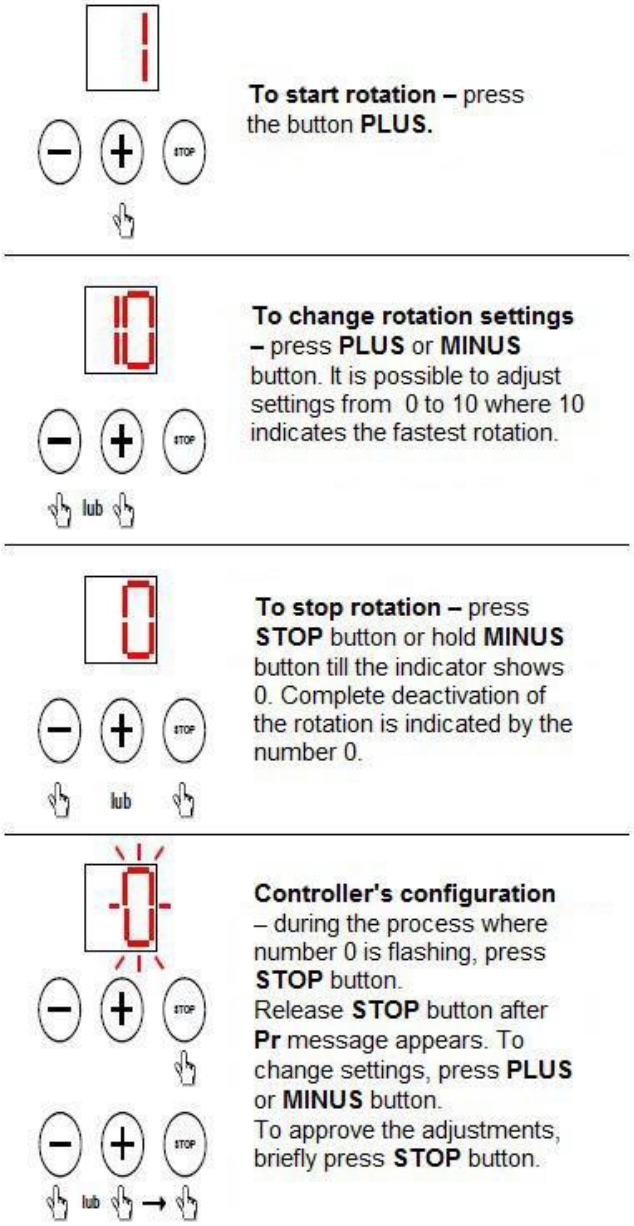


Honey extractor when assembled, ready to use

4. Instruction manual of the controller in diagonal honey extractors

The controller has a switch - ”0/1” used to enable and disable the honey extractor and fuse **(5A)** and **(15A)** located below the ”0/1” switch.
The control panel is equipped with navigation buttons – ”*PLUS”, ”MINUS” and with ”STOP”* button.

4.1 Characterization of controller:



After power supply activation, the regulator shall perform the auto-diagnostic sequence, which is signalled by flashing “0” digit.

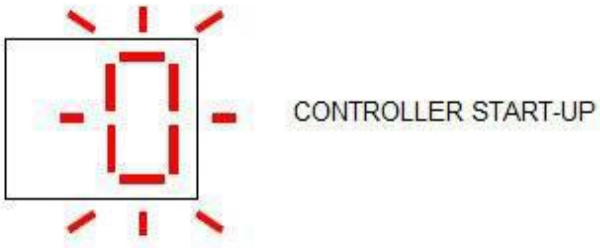


Fig. 1 Start-up sequence – auto-diagnosis

Detection of an error during auto-diagnostic procedure is signalled in the manner specified below. Message “d2” means that 2 errors have been detected. ‘E4” is the code of the last error detected. Error displaying occurs after the type of device has been displayed and blocks the device

operation. Further work is impossible until the reason for the error/errors has been removed.

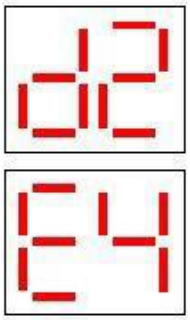


Fig. 2 Diagnostics – errors detected

E1 - (Error) – internal defect of the microprocessor controller

E2 - (Error) – damaging to a power board of the regulator

E3 - (Error) – short circuit on the line / pressing the (-) button

E4 - (Error) – short circuit on the line / pressing the (+) button

E5 - (Error) – short circuit on the line / pressing the STOP button

E6 - (Warning) – deleting the controller configuration settings

Once the auto-diagnostic sequence has terminated, the regulator switches into normal operation mode – awaiting the start-up. “0” appears on the display, which signals rotation deactivation. Rotation activation occurs by pressing the **plus** button. .

First pressing of the plus button (switching from “0” index to “1” index) triggers the start-up procedure. The regulator shall start with adequately increased power in order to decrease the power until the level adjusted by the first step of the settings. The regulator switches into normal operating mode, signalling the selected speed index in the following manner: .

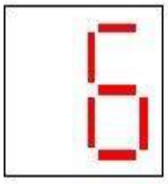


Fig. 3 Extracting – speed setting

Subsequent pressing / holding down the pressed **plus** or **minus** button shall change the engine rotational speed. Deactivation of the rotations is performed by the **minus** button (downgrading to “0” index) or by pressing the **STOP** button.

SDD-2DP controller has been equipped with Auto OFF function – it switches off the engine rotations after 15 minutes from the last pressing of the plus or minus buttons

SDD-2DP controller may be equipped with thermal protection function – it disconnects the engine power supply when the thermal protection sensor or the thermostat contacts are open. Triggering the protection is signalled by “Ht” message

Regulator SDD-2DP has an option to individually select the regulation characteristics – adjusts to the power supply conditions and to the parameters of the engine connected. Selection of the characteristics is based on setting up the three parameters: the one responsible for the lower limit of the engine rotational speed (L parameter), upper limit of the engine rotational speed (H parameter) and the ramp-up time (A parameter). Characteristics of operation are to be selected in the following manner:

Configuration „L0” - low rotational speed for the speed index 1

Configuration „L9” - medium rotational speed for the speed index 1

Configuration „LJ” - high rotational speed for the speed index 1

Configuration „H0” - low rotational speed for the speed index 10

Configuration „H9” - medium rotational speed for the speed index 10

Configuration „HJ” - high rotational speed for the speed index 10

Configuration „A0” - low engine dynamics (long ramp-up time)

Configuration „A9” - medium engine dynamics (medium ramp-up time)

Configuration „AJ” - high engine dynamics (short ramp-up time)

Additionally, the following parameters are to be defined during subsequent steps: t – specifying the regulation type, and consequently the rage for defining the basket ramp-up time and

F – (frequency of the power module keying), in order to facilitate the system operation optimising.

Configuration „t0” - regulator with slow ramp-up time (range 90s – 900s)

Configuration „t1” - regulator with quick ramp-up time (range 10s – 100s)

Configuration „F0” - low keying frequency

Configuration „F1” - average keying frequency

Configuration „F2” - high keying frequency

The current configuration of the regulator can be changed from the level of the configuration menu. The sequence for such a change has been described below:

1. Press the **STOP** button on the activation of the device (digit “0” flashes on the display) and next release the button once the message “Pr” has appeared.
2. Set up the lower limit of the rotational speed by buttons **plus** and **minus** („L0” … „LJ”).
3. Confirm the settings by pressing shortly the **STOP** button**.**
4. By means of buttons **plus** and **minus** , set up the upper limit of the rotational speed („H0” … „HJ”).
5. Confirm the setting by pressing the STOP button for a short time.
6. By means of buttons **plus** and **minus** set up the dynamics of the engine start-up („A0” … „AJ”).
7. Conform the setting by pressing shortly the **STOP** button**.**
8. By means of buttons **plus** and **minus,** set up the regulation type („t0” or „t1”)
9. Confirm the settings by pressing the STOP button shortly.
10. By means of buttons **plus** and **minus** , set up the frequencies („F0” … „F2”)
11. Confirm the settings by means of the STOP button. The configuration set up will be stored in the non-volatile memory of the controller.
12. Test the settings and perform the configuration sequence again, if need be.

Each SDD controller consists of a microprocessor controller board and a power and control module, connected to the controller by a special belt.

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 0º 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!!!
Wash the covers using warm (25°C) soapy water.
NOTE!!!
Do not use alcohol for cleaning.
(it may cause surface cracks of the cover)

IMPORTANT!

Before performing maintenance, one should pull out the mains plug!

Before the first centrifugation and 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.

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

7. Disposal

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

8. Warranty

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

The warranty period is 3 years *

* The warranty period does not cover controls and the drive and electrical equipment. Warranty on the above-mentioned parts is valid for 2 years.

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