



ENG

Users manual

varrtreat

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| Copyright | The content of this manual is copyrighted. Texts, illustrations and tables may not be copied without the express agreement of the manufacturer. It is also not allowed to duplicate and make available to third parties any part of this manual. |
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VARRTREAT-device – User's manual /EN/

Thank you for your trust and for your purchase of the device for thermal treatment against varroa mites - VARRTREAT. This device is intended for thermal treatment against varroa mites. Treatment with this device is completely ecological and chemical free.

Read the user's manual thoroughly before using this device even if you are already familiar with the device or you were using similar devices in the past. Use device only as described in this manual. Keep this manual in a safe place for the future reference.

We recommend that you store original packaging, invoice and warranty during the warranty period. When transporting the device pack the product using only original packaging material.

Important safety instructions and warning

Read carefully and store for the future reference.

- * Read the user manual before using the device.
- * The Varrtreat device is intended for the treatment of honeybee colonies and can be used only for this purpose.
- * This device is not intended for use by persons with reduced physical, sensory and mental abilities or persons with lack of experience or knowledge, unless supervised or provided with instructions by the person in charge of their safety or safe operation.
- * The device is not intended for use by children.
- * Packaging material must be kept out of reach of the children. There is a risk of suffocation. Make sure that children do not play with the device.
- * Only plug device into a 220-230 V AC power outlet.
- * Do not store the device in high heat and humidity conditions. In no case should the device be submerged in water or other liquids or flushed under the tap.
- * In case of immersion in water, remove the plug from the socket immediately.
- * Do not use device when raining.
- * Always unplug device when unattended, before assembling, disassembling or cleaning.

Warning:

- * To avoid dangerous situations, do not use this device with accessories from other manufacturers.
- * Never touch the moving parts of the device with your fingers or with third objects.
- * Do not attempt to use this device for a purpose other than its intended purpose.
- * Do not place device electrical cable near hot surfaces or sharp objects.
- * Do not place heavy objects on the cable.
- * Do not place heavy objects on the device.
- * Do not unplug device by pulling on the power cord - this may damage the power cord / terminal. Disconnect the cable from the connection point by gently pulling the plug of the electrical cable.
- * Never use a damaged device or device with a damaged cable.
- * If the power cord or plug is damaged, have it replaced by a qualified person to reduce the risk of hazardous situations.
- * In no case should you repair or modify your device yourself - electric shock!
- * The manufacturer assumes no liability for damage resulting from improper use of the appliance and accessories.

Description of the device

The top side of the device:

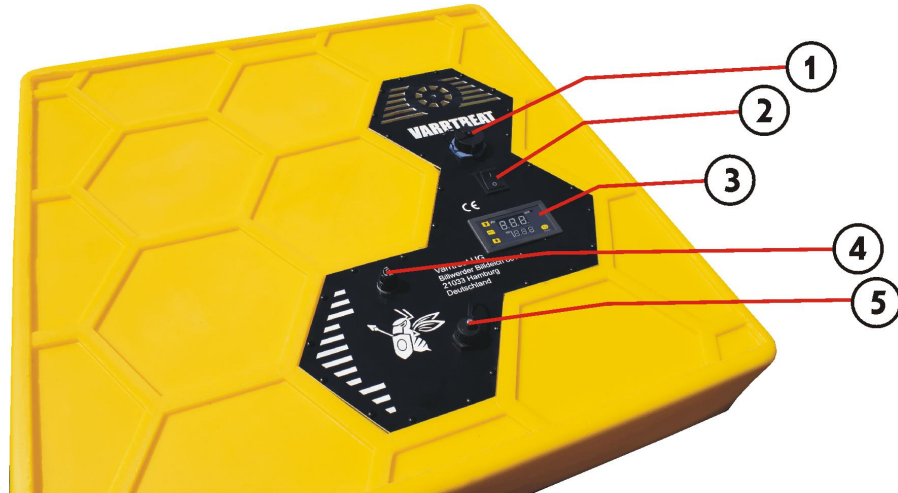


Figure 1. - Top side of the Varrtreat device: 1 – power cable connector 220 V, 2 – ON/OFF switch, 3 – control box with screen, 4 – fuse, 5 – lower heater connection plug.

The bottom side of the device:

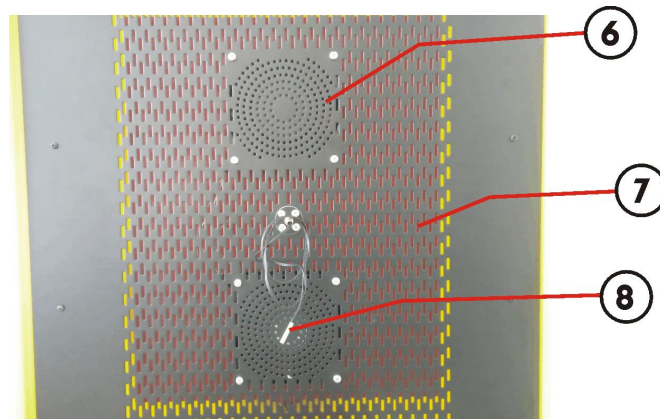


Figure 2. - The bottom side of the Varrtreat device: 6 – fan, 7 – heater, 8 – temperature probe.

Varrtreat device mounted on the hive, connected to the power source and bottom board heater is shown in Figure 3. Bottom board heater is shown in Figure 4.



Figure 3 - Varrtreat device mounted on the hive.

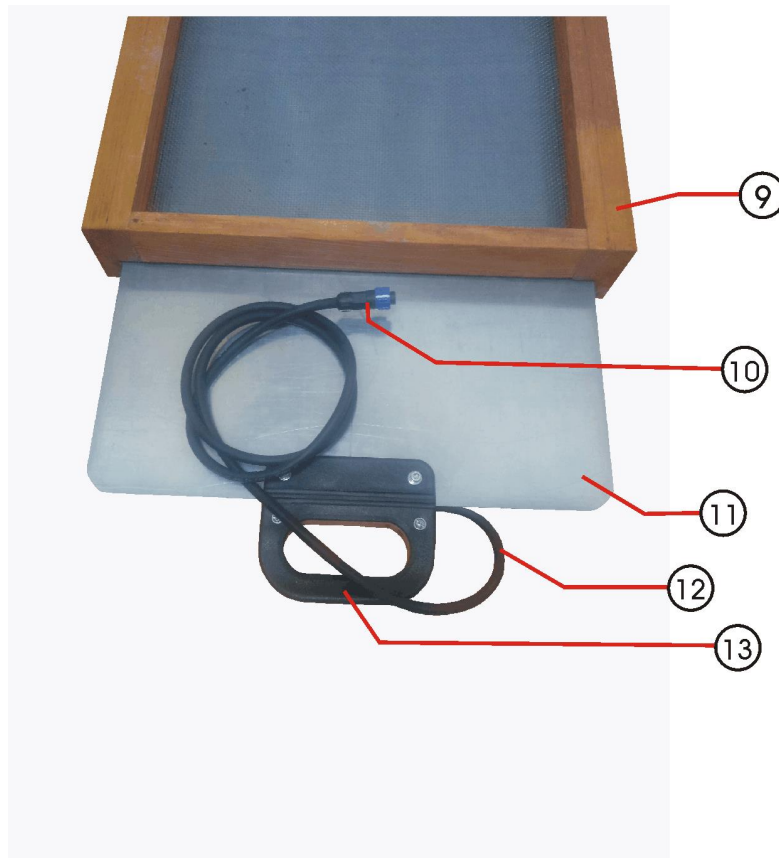


Figure 4 - Screened bottom board with heater: 9 – drawer, 10 – bottom heater plug, 11 – heater, 12 – heater cable, 13 – handle.

How to connect and use Varrtreat device

Before using the device, it is necessary to prepare the power supply with a voltage of 220 V and a frequency of 50 Hz.

Operating instructions:

On arrival at the apiary, select the first hive where you would like to undergo thermal treatment and follow the steps below:

- access the hive from the rear, opposite the beehive entrance,
- raise the hive roof and set it aside,
- insert the temperature probe (**8**) into the hive between frames **4** and **5**,
- connect the temperature probe to the unit,
- place the device instead of beehive roof,
- make sure that letters on the device are facing you in a proper direction,
- remove the screened bottom board and put it away,
- insert the Varrtreat heater bottom board (**11**),
- connect the cable (**10**) to the connector (**5**) on the control panel of the unit,
- connect the power cable to the connector on the control panel (**1**),
- close the hive entrance,
- connect the other side of the power cord to a 220V power source,
- turn on the unit with the switch (**2**) by setting it to ON position.

The device controller is shown in Figure 5.

After setting the switch (**2**) of the unit to the **ON** position, the controller display switches on. The value shown on the screen marked with **PV** indicates the current temperature in the hive (temperature measured by temperature probe - **8**). The value shown on the screen labeled with **SV** indicates the goal temperature in the hive and it is adjusted using arrow keys. The recommended temperature range is between 39 - 42 °C. Do not set the temperature outside these recommended limits!

Pressing and holding the **SET** key for 5 seconds enters the main menu. Pressing the keys marked with the arrow symbol enables the selection of functions from **P0** to **P8**. Function descriptions are shown in Table 1.

Table 1 – Functional description of the Varrtreat device.

| Mark | Function | Range | Default |
|------|------------------------|------------|---------|
| P0 | Heating/cooling | H/C | H |
| P1 | Hysteresis | 0.1 – 30 | 1 |
| P2 | Max set temperature | 120 | 120 |
| P3 | Min set temperature | -55 | -55 |
| P4 | Temperature correction | -20 | 0 |
| P5 | Start delay | 0 – 10 min | 0 |
| P6 | Alarm temp | -175 | OFF |
| P7 | Lock settings | ON/OFF | OFF |
| P8 | Factory settings | ON/OFF | OFF |

It is not recommended that the user change the settings under P0, P2, P3, P4, P6 and P8.

Pressing and holding the **SET** key for 5 seconds will indicate **P0**. Pressing the arrow key changes, the marks from **P0** to **P8**.

Pressing the **SET** key again allows you to change the default settings.

Example of changing settings:

Press and hold the **SET** key for 5 seconds. Press the arrow buttons to select **P0** and press the **SET** key again. Pressing the arrow buttons changes the default settings to the cooling mode indicated by the letter **C** or to the heating mode indicated by the letter **H**. Press and hold the **SET** key to confirm.

Note: **P0** settings should always be in heating mode (**H**).

P1 hysteresis setting:

Press and hold the **SET** key for 5 seconds until **P0** appears. Press the arrow button to select **P1** and press the **SET** key. Press the arrow buttons to set the amount to 1.0. When done, press the **SET** key again.

Eg. if the start temperature in the hive (marked as **PV** on the screen) is 25 °C and if the hysteresis value is set to 1 °C the relay will open, and the heaters switches on (red light indicates **OUT**). If the **SV** is set to eg. 42 °C, the heaters will be switched on until the measured temperature in the hive marked with **PV** reaches 42 °C. At that point, the relay opens, and the heaters are switched off. When the temperature drops to 41 °C the relay closes again, and the heaters are switched on again.

Save settings

If you want to save the settings, you can do so via **P7** function - by switching it to **ON** after setting the desired **SV** temperature and hysteresis amount. After switching off the device, these settings will be saved.



Figure 5 – Device control.

Shut down procedure:

- turn off the device by setting switch (2) to **OFF** position,
- disconnect the power cord from the power source,
- pull out the Varrtreat heater bottom board (11) (**caution – hot surface!**),
- insert screened bottom board,
- check for the dead varroa mite at Varrtreat heater bottom board (11),
- clean the Varrtreat heater bottom board (11) with a brush and a cloth,
- take off device from the beehive,
- disconnect temperature probe from device,
- put back original beehive roof in its place,
- record the beehive number and number of fallen mites in the beekeeping logbook.

Repeat the same procedure on the next beehive you want to treat.

Maintenance and cleaning:

After finishing treatment, brush and wipe heater bottom board (11), do not use abrasive detergents, gasoline, etc.

If necessary, clean and wipe temperature probe.

Storage:

Store device in a dry, dust-free place.

Technical specifications:

| | |
|------------------------|--------------------|
| Voltage | 220 V |
| Frequency | 50 Hz |
| Power | 2 x 350 W |
| Dimensions (l x w x h) | 580 x 580 x 100 mm |
| Material | Polyethylene |
| Mass | 8.2 kg |

Instructions and information on disposing of used packaging material:

Dispose packaging materials in public landfills.

This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



EU DECLARATION OF CONFORMITY

We, **VARRTREAT UG (haftungsbeschränkt)**
Billwerder Billdeich 601J, 21033 Hamburg, Germany

Declare under our sole responsibility that

The product: **VARRTREAT**

Manufacturer: **VARRTREAT UG (haftungsbeschränkt)**
Billwerder Billdeich 601J, 21033 Hamburg, Germany

To which this declaration relates is in conformity with the following standards:

EN 60204-1:2018
EN ISO 12100:2010
including amendments

following the provisions of Directive:

2014/35/EU – Low Voltage (LV)
2004/108/EC – Electromagnetic Compatibility (EMC)

Last two digits of the year in which the CE marking was affixed: **19**

Place and date of signature: **Hamburg, 01.08.2019.**

General Manager

Mr. Ivor Kramer