



# VARROJET

(Professional oxalic acid vaporizer)

## INSTRUCTION MANUAL



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# What you need

- Oxalic Acid vaporizer - VARROJET
- Oxalic Acid (OA) crystals and measuring cup for crystals
- Electronic timer or stopwatch
- Mask approved for Oxalic Acid fumes  
(for example this one from 3M OV/N95)
- Eye protection – protection glasses
- Acid resistant gloves
- Cloths to block entrances
- 3x AAA battery 1,5V
- Gas cartridge

# Safety instructions

- Always wear your mask, eye protection and gloves.
- Avoid skin contact with crystals, as this may cause burns.
- More information on oxalic acid safety data sheet
- Before using the Varrojet, **it is necessary to read the enclosed original instructions for the gas burner**, of which we are not the manufacturer and therefore **we are not liable for any damage caused by improper handling of this burner**. Although the burner is tested and works without problems in the Varrojet vaporizer, it is not intended by the manufacturer directly for our appliance, and therefore **greater care is required when using it in the Varrojet vaporizer**.

# Operating instructions

1. Insert gas cartridge into gas torch.



2. Put on black nozzle on end of pipe.



3. Fill up required amount of oxalic acid into cups.
4. For example, bee colony with two full sized boxes requires 1,5-2 grams of OA for treatment.
5. Insert vaporizer nozzle into hive from the front entrance.
6. Seal any ventilation with cloths.
7. Rotate with cups clockwise for full with OA and pull lever with hand. **(Please, be careful. Use working leather gloves, the carousel is hot.)**



8. Put maximum three grams per one vaporizing cycle.
9. Switch on the fan with the toggle switch.
10. Light the burner and heat the cup with a small flame. Wait approximately 30-60 seconds for evaporation to occur. (Depends on the ambient temperature and the amount of acid.)
11. After 6 or 8 colonies, turn of gas torch and wait min. 2 minutes for cooling.
12. Then the whole process can be repeated.

# Conditions of use

- Carry out the treatment in still air at ambient temperatures above 5 °C.
- For better contact of bees with the substance, apply it in the evening.
- It can be applied only in the inter-bed period or in the case of compartments and swarms from which no honeycombs will be taken.
- The application does not work under the capped fetus.
- After 7 - 10 days, repeat the whole process at least 3 times.
- Repeat the procedure for three weeks, as acid fumes do not affect the mites in the fetal cells..
- The next day after treatment, count the number of mites on the hive pad. Mites fall down after application for another 2-3 weeks.
- Spring healing can be done only after the first flight of bees.

- Another application is recommended in the period from May to June.
- Autumn retreatment can only be performed during the period without bee brood in the months of November to December.
- The treatment should be combined with the evaporation of formic acid using equipment designed for this purpose.

NOTE: At lower ambient temperatures, for example in autumn, the fumes are more visible.



# After finishing work

1. Turn off gas source and allow the VarroJet to cool for ten minutes.
2. After another 2 minutes, just stop the fan. (Helps cool the vaporizer.)
3. Removed all cloths.
4. Ensure that the vaporizer is cool before reusing or storing.
5. After the end of the treatment season, it is advisable to rinse the vaporizer under a stream of water outside the fan. Remove the batteries from the fan.
6. Make sure that the evaporator is cool before switching it on again or storing it in the storage compartments.

# Recommendations



Once a season put a drop of high temperature resistant lubricant into the center of the carousel to lubricate the plain bearing.

# Technical parameters

- DIMENSIONS (LxHxW): 55cm x 21cm x 15cm
- WEIGHT: 1,2 kg
- TEMPERATURE RANGE: 180 – 250°C
- ENERGY SOURCE: gas
- MATERIAL: stainless steel
- GAS CARTRIDGE LIFE: max. 3 hours (120 - 180 beehives)

# Package contents

- Vaporizer- VARROJET
- Vaporizer outlet reduction
- Measuring cup for crystals
- Fan without batteries
- Instruction manual
- Original packaging and instructions for the gas burner
- NOTE: gas cartridge is not included

# Notes