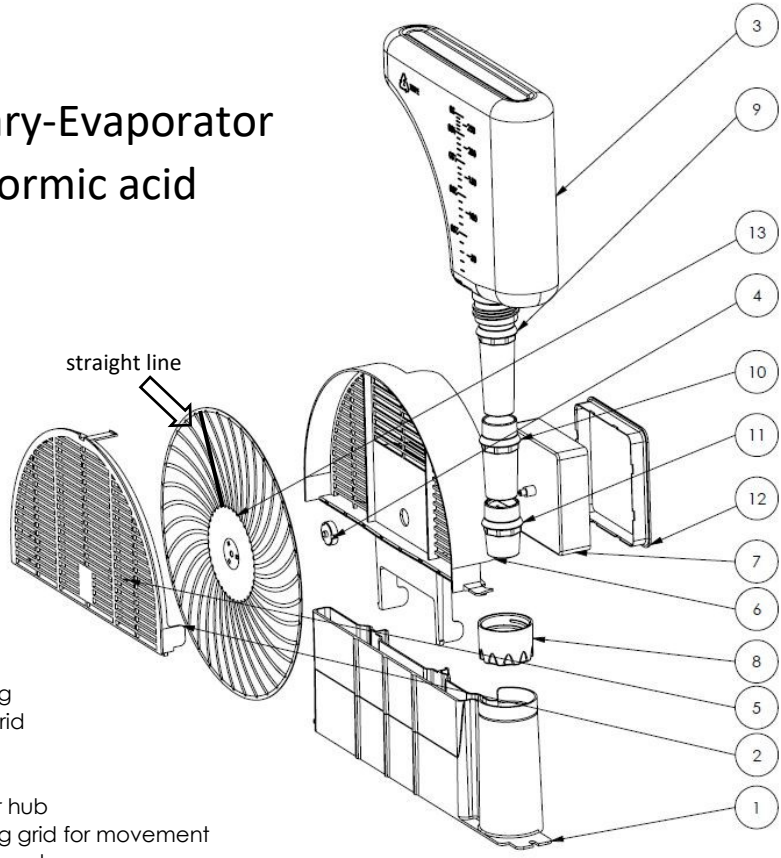
Varrodisc

www.varroa.li

Rotary-Evaporator for formic acid

Figure 1:



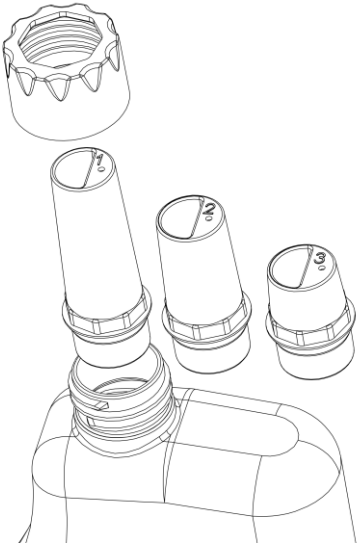
[1] housing
[2] front grid
[3] bottle
[4] hub
[5] clip for hub
[6] housing grid for movement
[7] movement
[8] screw cap
[9] nozzle no.1
[10] nozzle no.2
[11] nozzle no.3
[12] top cover movement
[13] disc

(numbers in [ ] helps to orient yourself in the text)

Safe handling with formic acid:
Formic acid is highly corrosive and should be stored carefully and out of reach of children. Great care must be taken when handling acid. Always wear safety glasses, acid-proof gloves and long clothing! Avoid splashes. In case of skin contact, wash off with plenty of water. If running water is not available, provide a bucket of water.

Instruction for the use of Varrodisc:
The AA battery included in the scope of delivery is inserted on the back of the drive unit [7]. The cover [12] is sealed with technical petroleum jelly. This is already applied in sufficient quantity upon delivery. The sealing compound must remain on the cover [12] and on the drive housing [12]. This ensures sealing against acid vapor. The device is fixed in an unwired empty frame. The bottle [3] is filled with the respective formic acid (concentration 60%, 75%, 85%) and the corresponding amount according to Table 1 and closed with the screw cap for safe transport to the apiary. Only shortly before hanging it in the bee colony is the filling level insert (see table 1: 1 - long, 2 - medium or 3 - short) attached and fixed open with a screw cap [8]. See Figure 2. The Varrodisc should be placed directly at the brood nest. The space for this is made possible by removing, preferably a pollen honeycomb or the drone frame. With large hives and in an adapted brood chamber, this is possible without removing a honeycomb. If used correctly according to Table 1, total evaporation can be expected within approx. 10 days. The desired amount of evaporation per day is therefore 10% of the specified filling amount. If temperatures are too cool in late summer, it is recommended to check the amount that has evaporated after 2 - 3 days. If necessary, replace the level insert with the next higher one (use No. 2 instead of No. 1, use No. 3 instead of No. 2). When using 60% formic acid, the formic acid concentration should be increased or a second Varrodisc should be hung on the opposite side of the brood nest.

Figure 2: (Bottle with 3 possible nozzles)



Time of Treatment:
1. Treatment
First treatment should begin at the end of July, immediately after the honey rooms have been harvested. High summer temperatures are not a problem for the Varrodisc.

2. Treatment
End of August to beginning of September after feeding. It is important to ensure that the weather is as warm as possible. When the colonies are in a brood-free state (December), residual mite removal with oxalic acid is recommended

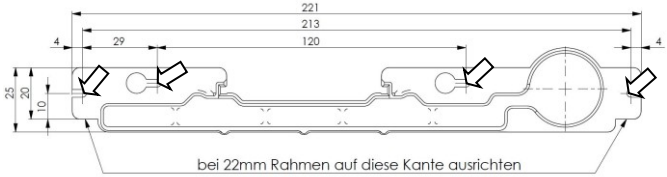
If used correctly, loss of queens is impossible during treatment with the Varrodisc. Newly hatched bees and the youngest brood react very sensitively. Certain brood losses are therefore possible, but this does not affect population development.

Table 1:

Table for use of formic acid					
		Fill quantity per hive size [ml]			
Concentration of formic acid	Number of nozzles (see Pic. 2)	Large e.g.: Double case, Zander, German standard	Medium e.g.: Dadant	Small e.g.: one case, Zander, German standard	offshoot various
85 %	1 - long	200	180	160	120
75 %	2 - middle	230	210	180	150
60 %	3 - short	280	250	220	170

Assembly:
The housing [1] is fixed to an empty frame with at least 2 screws. The 4 possible screw positions, *see Figure 3*, are marked with an arrow ⇩ . Align the Varrodisc as centrally as possible in the frame. Then screw the device to the frame.

Figure 3: (View of housing [1] from below)



Cleaning:
Plastic parts [1,2,3,4,5,6,8,9,10,11,12] must be cleaned with alcohol (spirit). The evaporation disk [13] and the drive unit [7] must not come into contact with cleaning agents. It is strongly recommended to remove the battery after use. The Disc [13] will break, if it runs dry for too long.

Important:

- - These instructions (current version) and further information can be downloaded from the online store. - in the "VIDEO" tab
- - Spare and wear parts are available in the online store.
- - Remove the battery after use.
- - Do not remove the sealing compound (Vaseline) from the drive.
- - The disk has a straight line (see page 1, figure 1). Please observe whether the disk rotates. The battery must be inserted. The disk rotates once an hour (the red line corresponds to the minute hand of a clock. It is best to set this to 12:00 or to the current time when starting up. To do this, turn the disk on the hub or on the disk. After a few minutes you will see whether the disk is turning. – Battery is ok.

Technical Data:
Dimensions: 241mm x 186mm x 35mm
Minimum mounting height: H = 190mm
Bottle capacity max.: 300ml
Tare weight: ca. 250g
Speed: n = 1/h; means one revolution per hour

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