

Case study

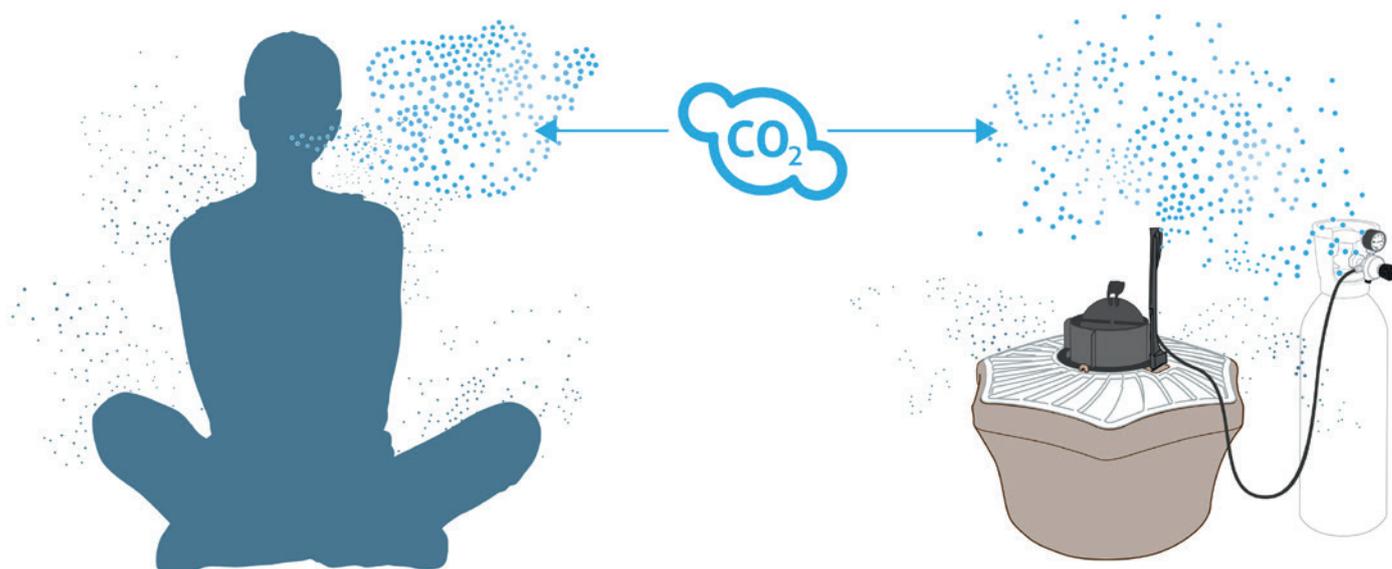
Precise CO₂ dosing for mosquito traps



Case study

Effective mosquito control with CO₂

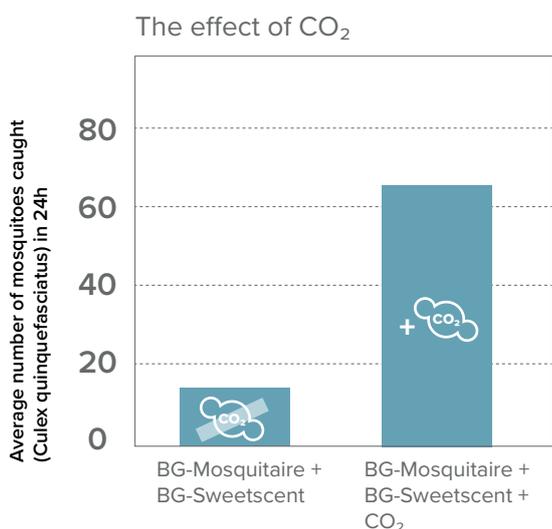
Flow control with Biogents mosquito traps and Vögtlin Instruments



Introduction

Mosquitoes are one of the greatest threats to human health worldwide. Every year, millions of people become infected with mosquito-borne diseases such as malaria, dengue fever or the Zika virus. In addition to the health

risks, mosquitoes also significantly impair the enjoyment of leisure time in gardens and on patios. An innovative solution for mosquito control is offered by **Biogents** with its highly effective mosquito traps, which work even more efficiently thanks to the targeted control of carbon dioxide (CO₂). This is where the **precise flow regulators** from Vögtlin Instruments come into play, enabling CO₂ to be released economically and in line with demand.



Reference: Willis, S. et al. (2015): Mosquito Trap Comparisons Using Biogents Lures. Louisiana Mosquito Control Association

How Biogents mosquito traps work

Biogents mosquito traps ensure effective and targeted control of mosquitoes by using scientifically proven attraction mechanisms. They ensure a significant reduction in the mosquito population, are environmentally friendly as they do not require the use of chemical insecticides and offer a sustainable solution for protecting people from mosquito bites and the associated diseases. Biogents has focused on the development of highly specialised mosquito traps that attract mosquitoes through a combination of visual stimulation, airflow and body heat-like signals. A particularly effective method for increasing the catch rate is the use of CO₂ as an attractant. Carbon dioxide simulates human breath, which leads mosquitoes directly to the trap. Studies show that the use of CO₂ can increase trapping efficiency by up to 500%.



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The role of Vögtlin flow regulators

The dosage of CO₂ is crucial for the efficient operation of the mosquito traps. Pressure regulators enable the coarse adjustment of CO₂ release rates. This is absolutely sufficient for private households.

Due to the constant further development of Biogents mosquito traps, it is important that different traps are tested under the same CO₂ release conditions.

This is where the precise mass flow controller from Vögtlin Instruments offers an optimal solution.

The red-y compact is also used in trap networks that are managed by professional mosquito control operators. Trap networks are set up for mosquito control, e.g. in the gardens of hotels or restaurants. Here, many mosquito traps are connected to a single CO₂ cylinder, all of which are supplied with CO₂. A timer enables the targeted release of CO₂ at the times when the number of mosquitoes is highest. This allows CO₂ to be saved. The red-y is particularly important in such trap networks, as it can be used to set the correct CO₂ flow rate. This ensures that a sufficient amount of CO₂ is released at different points in the trap network.

The red-y compact guarantees

- **Precise control of the CO₂ flow rate** in the range from a few millilitres to several litres per minute
- **Automated adjustment** depending on ambient temperature and humidity
- **Minimisation of CO₂ losses**, which reduces operating costs
- **Durability and reliability** even under demanding conditions

Facts and figures

- Mosquitoes are responsible for around **700.000 deaths per year** worldwide.
- A single female mosquito can lay up to **500 eggs per life cycle**.
- CO₂-enriched mosquito traps catch **up to five times more** mosquitoes than traps without CO₂



A Biogents employee checks the CO₂ gas flow with the help of a red-y compact

Conclusion

The combination of **Biogents mosquito traps** and the **high-precision CO₂ flow controllers from Vögtlin Instruments** offers an effective, economical and environmentally friendly solution for mosquito control.

The exact dosage of CO₂ leads to maximum trapping efficiency with minimum consumption. This makes the technology particularly attractive not only for private households, but also for hotels, catering establishments and public facilities. Anyone looking for a sustainable and effective strategy against mosquitoes will find this solution to be the ideal choice.



I would like to know more about the scientific studies of the Biogents mosquito traps.



I would like to speak to a flow expert from Vögtlin Instruments.



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