

We bring technologies together.

**POMO®**  
Generation  
2022



**Pollen Monitoring Systems**  
BAA500e, BAA502

**POMO® - The automated pollen measurement system**

# POMO<sup>®</sup> platform

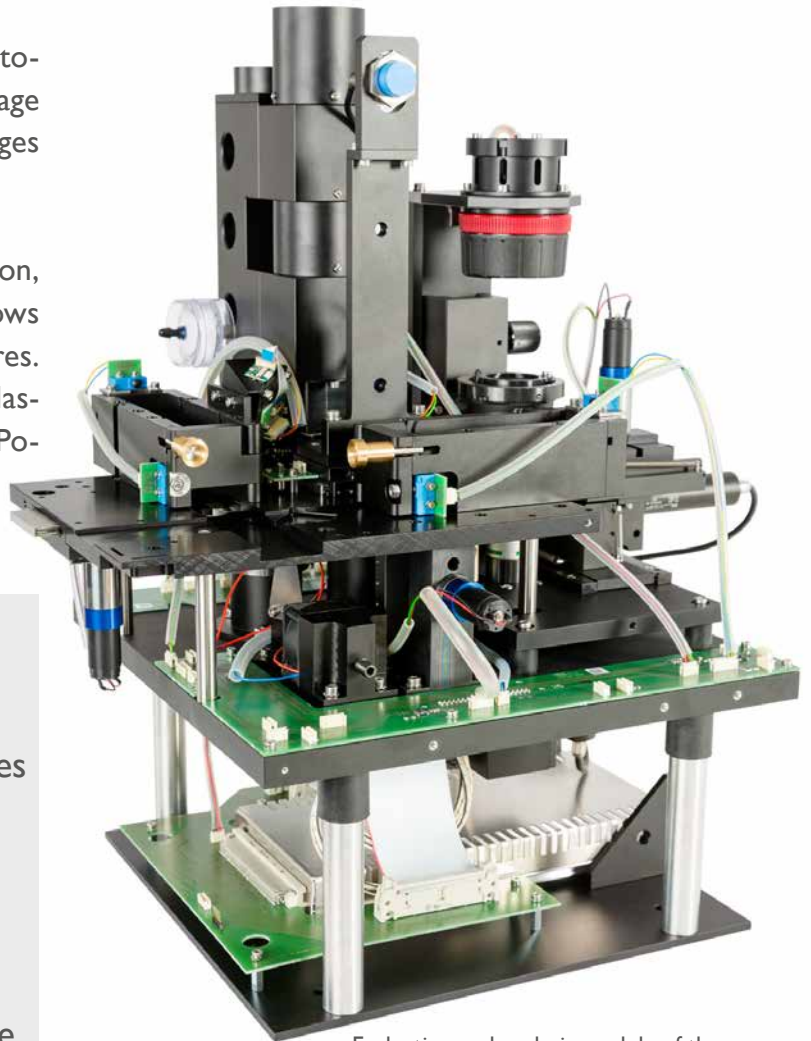
Based on 20 years of pioneer work in automated pollen monitoring, the systems BAA500e and BAA502 use morphological design features as the most effective method for different pollen species. In this way, the procedure for pollen analysis by human pollen counters has been automated.

All devices of the POMO series feature automatic sampling, optical measurement, image analysis and archiving of bioaerosol images such as pollen, bacteria and spores.

As an add-on to the existing software solution, an Artificial Intelligence (AI) algorithm allows the classifier to evaluate millions of features. Thus, the user may choose between the classical, feature-based approach and our new PomoAI solution.

## Features and benefits

- Precise results in real time
- High-resolution microscopic images
- Open software interfaces
- No external calibration process with monospecific pollen grains needed
- On the fly training possible
- Generic pollen reference database



Evaluation and analysis module of the Pollen Monitors BAA500e and BAA502

Specifications	POMO <sup>®</sup> - BAA500e	POMO <sup>®</sup> - BAA502
Dimension (W x D x H)	750 mm x 650 mm x 1 130 mm	900 mm x 800 mm x 1 800 mm
Weight	140 kg	260 kg
Sample carrier	plastics	glass/plastics
Extended magazine	optional	yes
Measuring interval	1 - 24 h	1 - 24 h
Volumetric flow	600 l/min	600 - 1 200 l/min, adjustable to customer requirement
Size of suction tube	0.3 m	up to 1 m
Analysis algorithm	AI (deep learning)	classical / AI (deep learning)

# POMO<sup>®</sup>-BAA500e

The BAA500e is the newest stage in the evolution of the POMO series and offers the proper solution for networks and local facilities at an attractive price level.

Due to its advanced technology and compact external design, the BAA500e is capable to provide reliable and long-term measurements of local bioaerosol concentrations at any location. The BAA500e works with the proven stability of the BAA500, is more compact and therefore also suitable for use on roofs with limited roof-loads.

As a result of various technical improvements, the new BAA500e is a reliable technology in an energy-efficient and smart package.



# POMO<sup>®</sup>-BAA502

The BAA502 is the improved version of the BAA500, which is more powerful, more energy efficient and defies also extreme ambient climate conditions.

Higher magazine capacities reduce the maintenance requirements significantly and make the BAA502 an all-round measuring instrument for various applications.

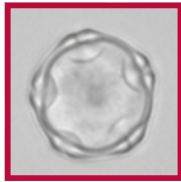


# POMO<sup>®</sup> platform

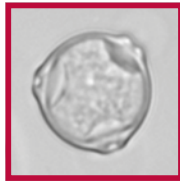
Individual pollen types hardly differ in their chemical composition. A promising solution for the reliable and automated differentiation is to focus on the morphological characteristics. To this end, the system has to be trained for the different species of pollen. To date, our generic pollen reference database contains more than 500 000 images of individual pollen grains.



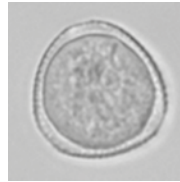
Corylus



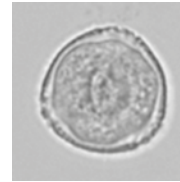
Alnus



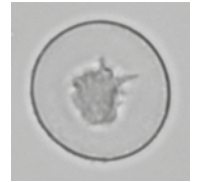
Betula



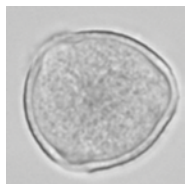
Fraxinus



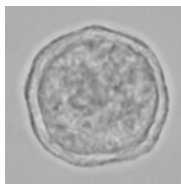
Platanus



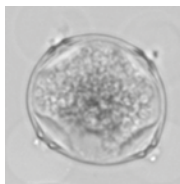
Taxus



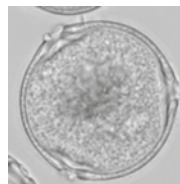
Quercus



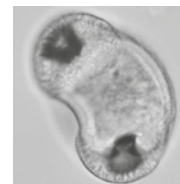
Populus



Carpinus

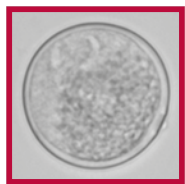


Fagus

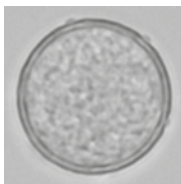


Pinaceae

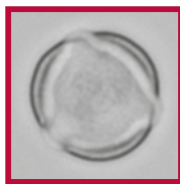
Trees  
Herbs  
Spores  
Allergenes



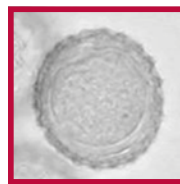
Poaceae



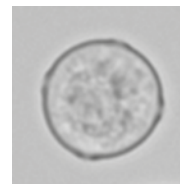
Plantago



Artemisia



Ambrosia



Urtica



Alternaria

## PomoAI

Image analysis based on deep learning algorithms (AI) is the new approach for the detection and classification of bioaerosols. Our new open and flexible software interface makes it possible to either use our PomoAI recognition software or to adapt to customer specific AI algorithms.

This does not only lead to a significant improvement in the detection rate, but also offers the possibility to add other classifiers for the detection of bioaerosols. Moreover, local pollen species can be classified and easily added to the reference database.

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