

Quality, innovation and service

Developed and produced in Germany

For over 50 years HygroMatik has been developing, producing and distributing **energy-efficient and flexible air humidification solutions** for many areas of application. Our air humidification systems are characterised by special sustainability in terms of maintenance, quality and longevity. That is our promise, which we are happy to be measured against every day anew.



High durability and safety

Use of high-quality components and application of intelligent protection and maintenance programmes



Maximum flexibility

Any room size and any project can be realised thanks to expandable performance classes and optional additional functions



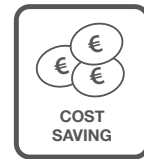
ServicePlus ⁺

From planning to maintenance - personal, digital and sustainable



Maximum hygiene

Cleaning options and use of inert materials for hygienically sensitive application areas



Cost and time savings

Long operating times and low maintenance



Sustainable and efficient

Resource-saving use of materials, intelligent energy management and avoidance of water loss

Our service for 100% customer satisfaction

- Long availability of replacement parts
- Technical hotline +49 4193 895-293 or hotline@hygromatik.com
- HygroMatik distributes in more than 45 countries
- Operation and maintenance training for the operators
- Operating manuals, planning data and information on workshop events available online at hygromatik.com



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Inhouse Farming

Air humidification for optimal results

High Value Crops

Vertical Farming

Insect Farming



Hygienic | Efficient | Certified

07/2023

Agriculture in a controlled environment

Optimal conditions for high-yield growth

The best indoor climate for optimum yield

Independent of climate and season

According to a study by the United Nations, by 2050 almost 10 billion people will inhabit the earth. On the other hand, there will be less and less arable land. Climate change, over-fertilisation and sealing of soils present us with new challenges in terms of food security. Inhouse farms already offer practical solutions for many agricultural products.

Under **homogeneous and controllable conditions**, ideal growing conditions prevail there all year round. In addition to the nutrient supply of the plants and an optimum lighting, **controllable humidity** is a decisive factor for yield, quality and harvest reliability.

For example, disused factories, warehouses or shipping containers become multi-layered, vertically arranged „gardens“ in which healthy and fresh food such as fruit, vegetables or herbs are grown - **regardless of climate and season**.

Vertical Farming

Controlled indoor cultivation of crops

Vertical farming usually focuses on the production of plant-based foods in urban areas. Each plant species, but also each growth phase, provides optimal values for the **relative humidity (RH)**.

- Growing phase: 70-80% RH
- Growth phase: 50-80% RH
- Flowering phase: 40-60% RH

When grown outdoors, native plant species are well adapted to the climate conditions. With our air humidification systems, the indoor climate can be perfectly conditioned for the needs of the respective plants and insect breeding. The high precision and reliability of our systems optimises yield and protects against crop failures and diseases, such as those that can occur in nature due to undesirable weather events.

High Value Crops

Agricultural products with high market value

High Value Crops (HVC) achieve a higher market value compared to conventional crops. These include special varieties of fruit, vegetables and herbs, but also medicinal plants that are used in pharmaceutical products or the cosmetics industry. A precisely controllable room climate protects the investment during the growing cycle and ensures a high-yield harvest.

Insect Farming

Protein source of food and feed production

Insects such as mealworms, grasshoppers, crickets or black soldier flies are increasingly used as an alternative source of protein in food and feed production. Most farms use vertical breeding systems that allow large quantities of insects to be produced in a small space. The prerequisite for safe and fast growth is a precisely controllable room climate that optimally adapts temperature and humidity to the individual phases of rearing.



Research and development

Creating something new together

Together with universities and research departments of the pharmaceutical and food industry we are involved in numerous research projects. We ensure that the results are produced under reproducible and comparable climatic conditions. Our air humidification systems precisely control the indoor climate in the research facilities with the common aim of

- accelerating growth phases and increasing crop yields
- developing and optimising cultivation systems
- reducing energy use
- testing varieties and species suitable for inhouse farming

Productive in action

Efficient use of tried and tested

Even though the industry is still comparatively young, inhouse farming is already being practised successfully on an industrial scale. We plan and supply **proven and field-tested** air humidification and water treatment systems for every room size and every air handling connection, flexibly adapted to every project requirement.

Quality, innovation and service characterise our range of services, as well as the sustainable and holistic development of solutions. This also includes, for example, **efficient heat recovery**, which we plan and realise together with our specialist for energy recovery, the KLINGENBURG GmbH.

And what are you planning?
We look forward to your project.

