



MUSHROOM CULTIVATION

HUMIDITY CONTROL AND IRRIGATION
FOR MUSHROOM FARMS

INCREASE THE YIELD OF YOUR MUSHROOM FARM WITH HUMIDITY CONTROL AND IRRIGATION MANAGEMENT

PROBLEMS IN MUSHROOM FARMS WITH LACK OF HUMIDITY



UNWANTED EFFECTS OF LACK OF HUMIDITY DURING MUSHROOM GROWTH



WATER AND WEIGHT LOSS



GROWTH STALL



DISCOLORING



CRACKS

FACTORS

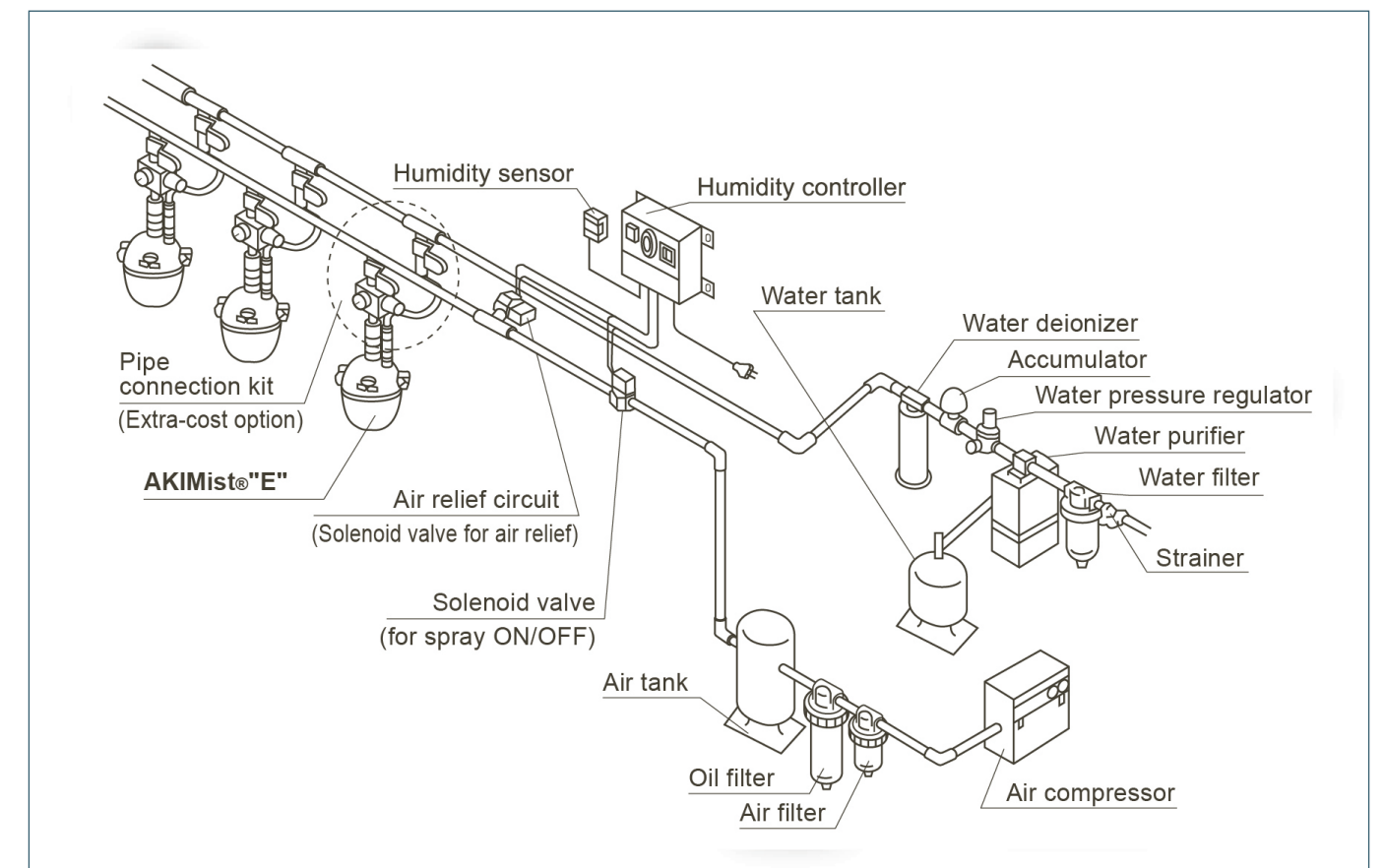
- 1 Type of mushroom:** Different species of mushrooms have different humidity requirements
- 2 Growing room conditions:** air flow, humidity level, temperature, lighting, substrate.



IKEUCHI'S SOLUTION: DRY FOG HUMIDIFICATION SYSTEM AIRAKI® WITH THE HUMIDIFIER AKIMIST® "E"

AirAKI® is a humidification system consisting of the Dry Fog humidifier AKIMist® "E", control equipment, and reverse osmosis equipment.

Non-wetting Dry Fog sprayed from AKIMist® "E" produces and maintains a humidity-controlled environment without creating water puddles. Spraying droplets at an average size of 7.5 µm, the water droplets evaporate before reaching any surface, without wetting.



STANDARD INSTALLATION

We offer tailor-made solutions.

Before installation of an AirAKI® system, we analyze the customer's needs and site to create the ideal environment.

Humidification system planning and layout are designed to meet each and every customer's requirements to achieve the desired condition.

DRY FOG HUMIDIFICATION SYSTEM AIRAKI® WITH THE HUMIDIFIER AKIMIST® “E” ITS APPLICATIONS

AIRAKI® SYSTEM

Managed by a control unit with timer or humidity sensor, the AirAKI® system will keep a constant humidity level year-round in the cellar. Using **demineralized water**, its maintenance is easy and reduced to a bare minimum.

FLEXIBLE INSTALLATION

Thanks to the small size of the Dry Fog humidifier AKIMist® “E” (~25 cm height), it is easy to install regardless of the existing air conditioning system. It is suitable for any type of configuration, even rooms with limited space, as **it humidifies without wetting surfaces**.

AMBIENT OR SPOT HUMIDIFICATION

AKIMist® “E” can cover big facilities as well as small growing rooms

- Up to 4 nozzles mounted per body.
- Coverage of over 4 meters horizontally per nozzle
- Relative humidity stabilized in a room of about 100m³ with only one nozzle

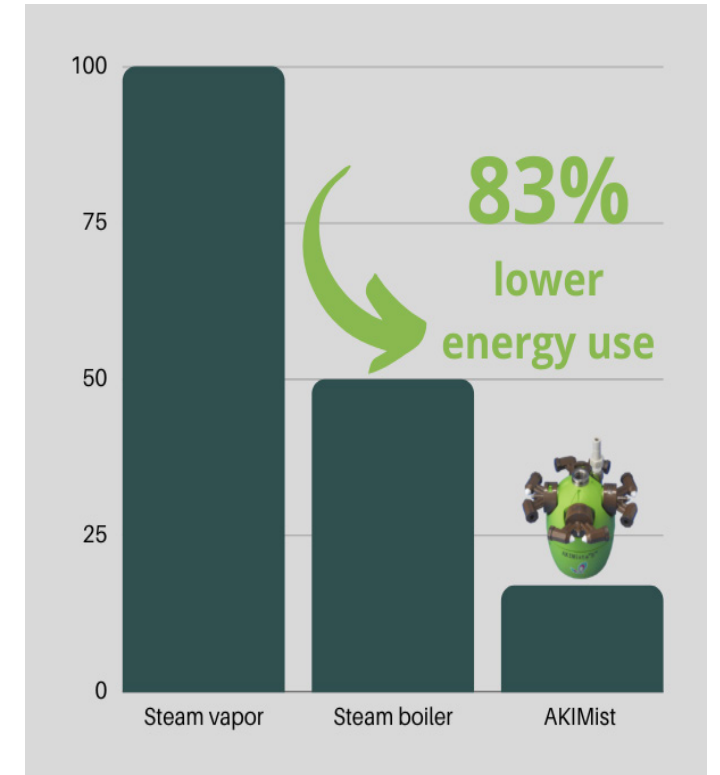


AKIMIST VS. ALTERNATIVES SYSTEMS

THE ENERGY EFFICIENT HUMIDIFIER

AKIMist® “E”

- **The energy costs** of running a dry fog humidification system like AKIMist® E is five times lower than a conventional steam humidification system.
- **The CO² emission** is 80% lower than a steam humidifier.
- **Cools down:** Reduces the cost of the air conditioning system as it cools down the temperature by 2 degrees as a side benefit. .



ADVANTAGES OF AKIMIST:

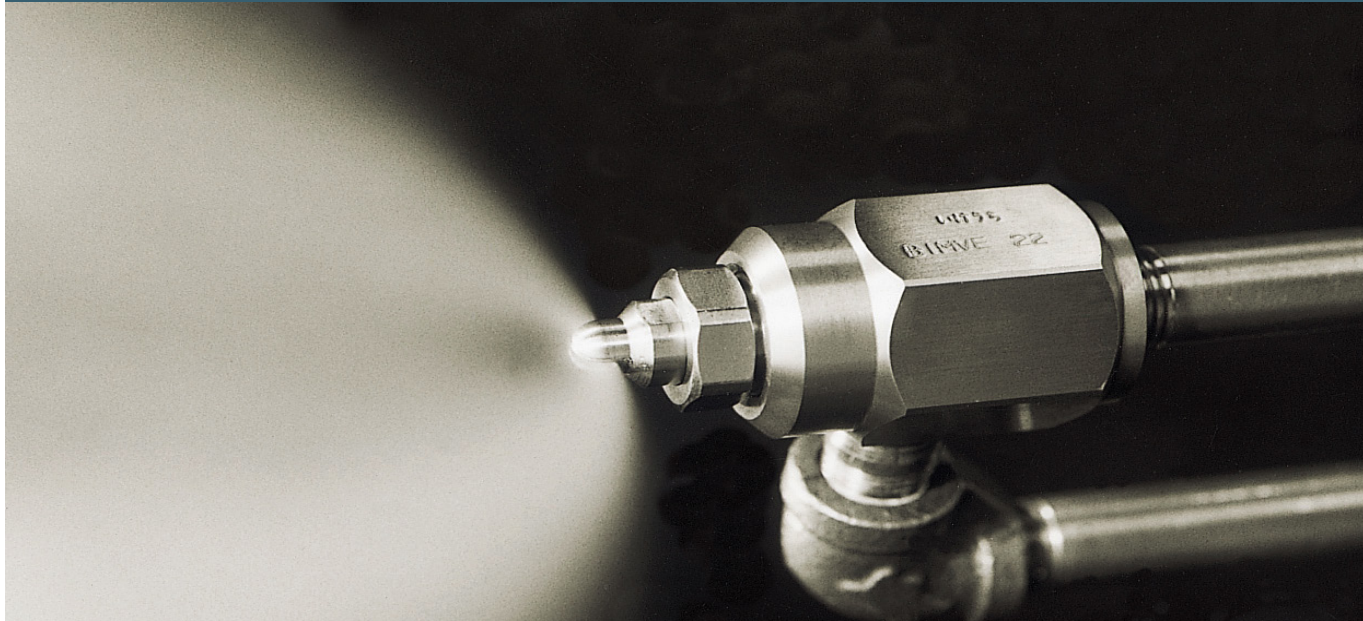


AKIMIST ADVANTAGES:

- Humidifying with water without wetting equipment (no water drops)
- Prevents static electricity at production site
- Easy installation by adding on to existing HVAC
- Easily adaptable to changes in the floor layout
- Its double advantage of cooling while humidifying
- Reducing product loss and scrap
- Improving product quality

HUMIDITY CONTROL FOR STARTERS WITH BIM SPRAY NOZZLES

- The BIM-series is a range of pneumatic spray nozzles which produce a fine atomization with a mean droplet diameter of 100 µm or less (*3). This is a suitable droplet size for humidification control in an environment where a small degree of condensation is acceptable.
- The BIM-series is designed with fewer parts than conventional nozzles for easier maintenance and a lower price and the unique design greatly minimizes clogging.
- The series provides a range of nozzles with various types of patterns, such as: flat, hollow cone and full cone.
- Attached to a compressed air system, their spraying can be easily controlled, and they offer the possibility of regulation with an on/off switch provided by a controlling adaptor.



BENEFITS

- **More cost efficient**
- **Small droplet size: fine atomization with a mean droplet diameter of 30µm or less.**
- **Even spray distribution**
- **Energy efficient**

DISADVANTAGES

- **Larger droplet size than AKIMist. - condensation may occur**
- **Need to control both air and water**
- **More maintenance than AKIMist**

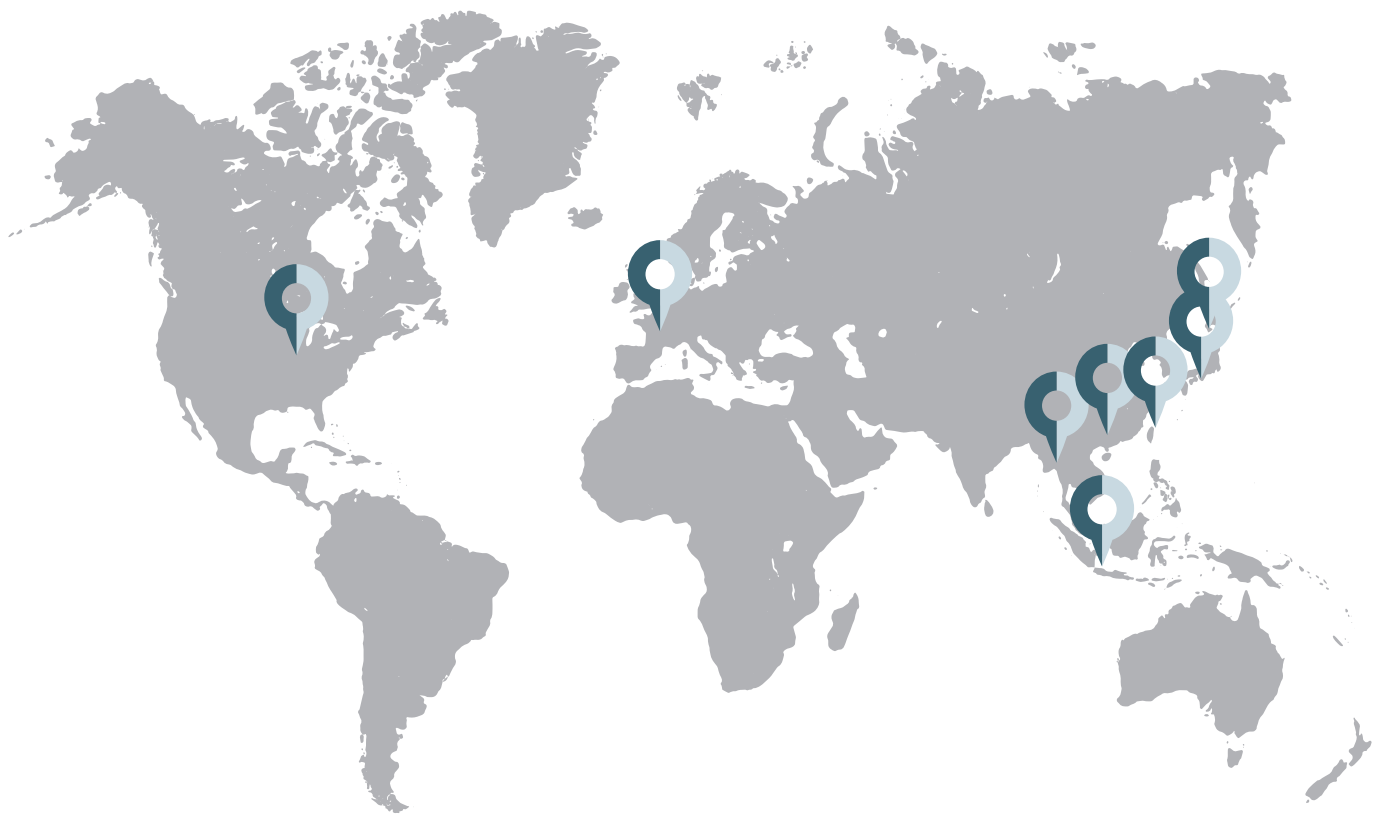
IRRIGATION SYSTEM FOR MUSHROOM CULTIVATION INCREASE THE YIELD AND QUALITY OF YOUR MUSHROOMS

- Ikeuchi's SSP nozzle has been specifically developed for mushroom irrigation based on our clients needs.
- It has a 125° wide spray angle in order to cover a large growing bed at limited spraying height.
- The uniform square pattern with wide angle makes it easier to spray without any over coverage or lack of coverage.
- The SSP has a low Spray Impact: approx. 300 µm (classified as natural light rain) which is considered the ideal amount for most mushrooms.
- This spray nozzle is especially developed to only spray downwards in order to avoid damages on LED lights and to prevent rotting of woods etc.



ADVANTAGES:

- **Higher yields:**
Consistent and precisely controlled irrigation will lead to higher mushroom yields. Since mushroom rooms are mostly composed of water, a lack of moisture will result in smaller, less desirable mushrooms. Adequate irrigation helps ensure the growth of larger, more marketable mushrooms.
- **Hydration**
Hydration is important for a successful mushroom harvest. Without proper hydration control, mushrooms can become dehydrated or overly saturated, leading to poor yields or low-quality mushrooms.
- **Time management:**
Having an automatic irrigation system will save an enormous amount of time and labour on your mushroom farm. Instead of manually watering each bed or container, farmers can set up irrigation schedules and let the system do the work, freeing up their time for other essential tasks.



Ikeuchi is a Japanese company with branches all over the world. It was founded in 1954 in Osaka and has since then expanded across Asia, North America and Europe.

For inquiries / information requests / quotations related this product, please contact us



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The fog engineers

“Taking the path less traveled”

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