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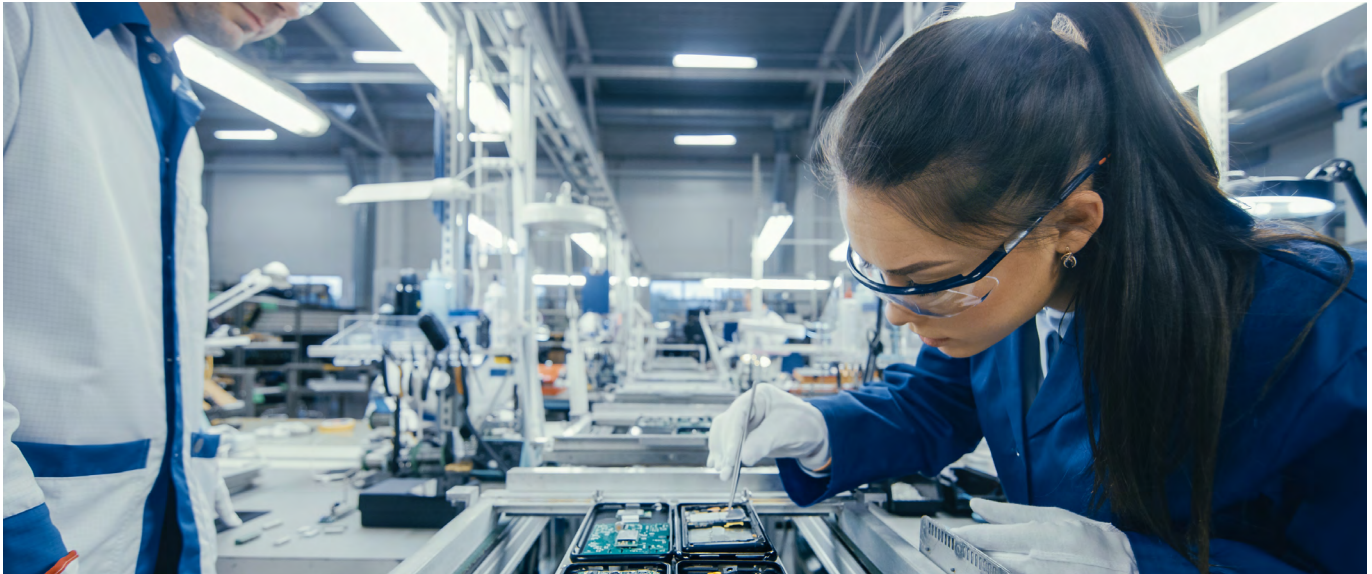
# HUMIDIFICATION:

ESD PREVENTION IN THE ELECTRONICS  
INDUSTRY

## ENERGY-SAVING HUMIDIFICATION SYSTEM FOR SURFACE MOUNTING

# CUT MOUNTING DEFECTS TO NEAR ZERO

### PROBLEMS IN SURFACE MOUNTING / PCB ASSEMBLY PROCESS



#### EFFECTS OF AN UN-CONTROLLED HUMIDITY LEVEL



ESD



DUST  
ADHESION



ERROR  
RATE



CIRCUIT  
DAMAGE



SOLDER-  
ING  
DEFECTS



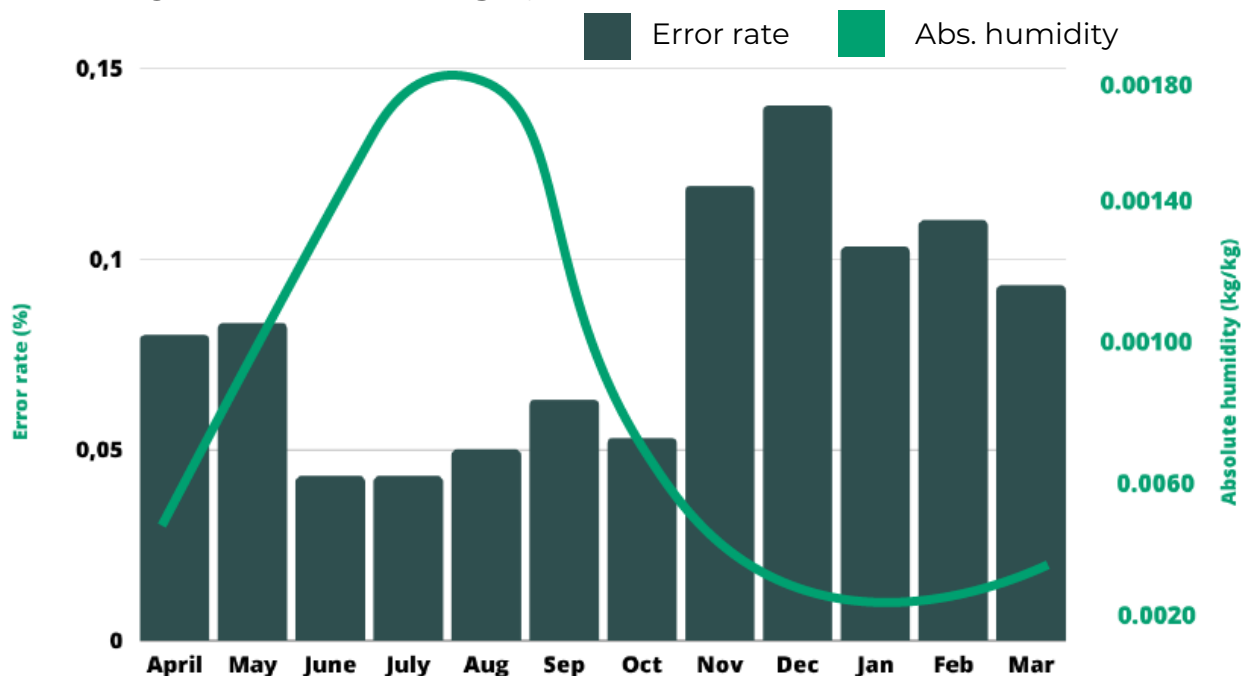
BAD  
MOUNTS

## FACTORS

- 1** *Humidity level influenced by outside air conditions*
- 2** *Temperature controlled by HVAC system*
- 3** *Error rate increases when humidity level is low, especially during the winter season*

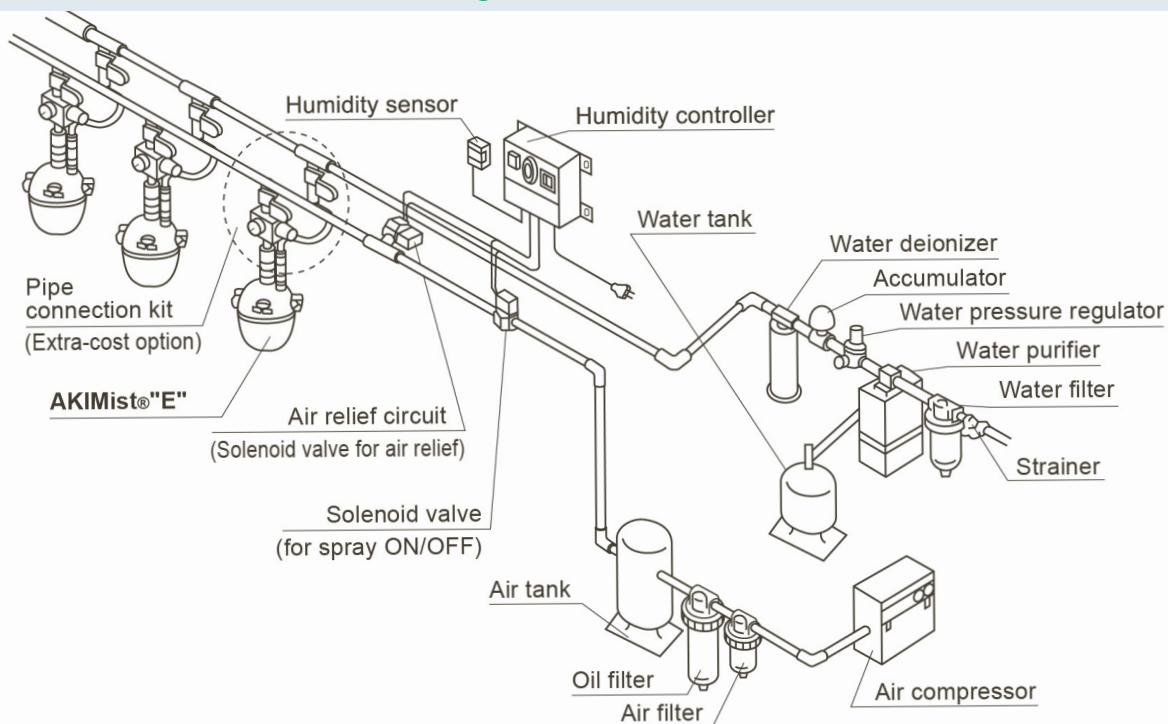


## IKEUCHI'S SOLUTION: DRY FOG HUMIDIFICATION SYSTEM AIRAKI® WITH THE HUMIDIFIER AKIMIST® "E"



**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 which generates less static charge and thus, will drastically reduce issues such as circuit damage and dust adhesion.



### 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.

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

### AKIMIST®

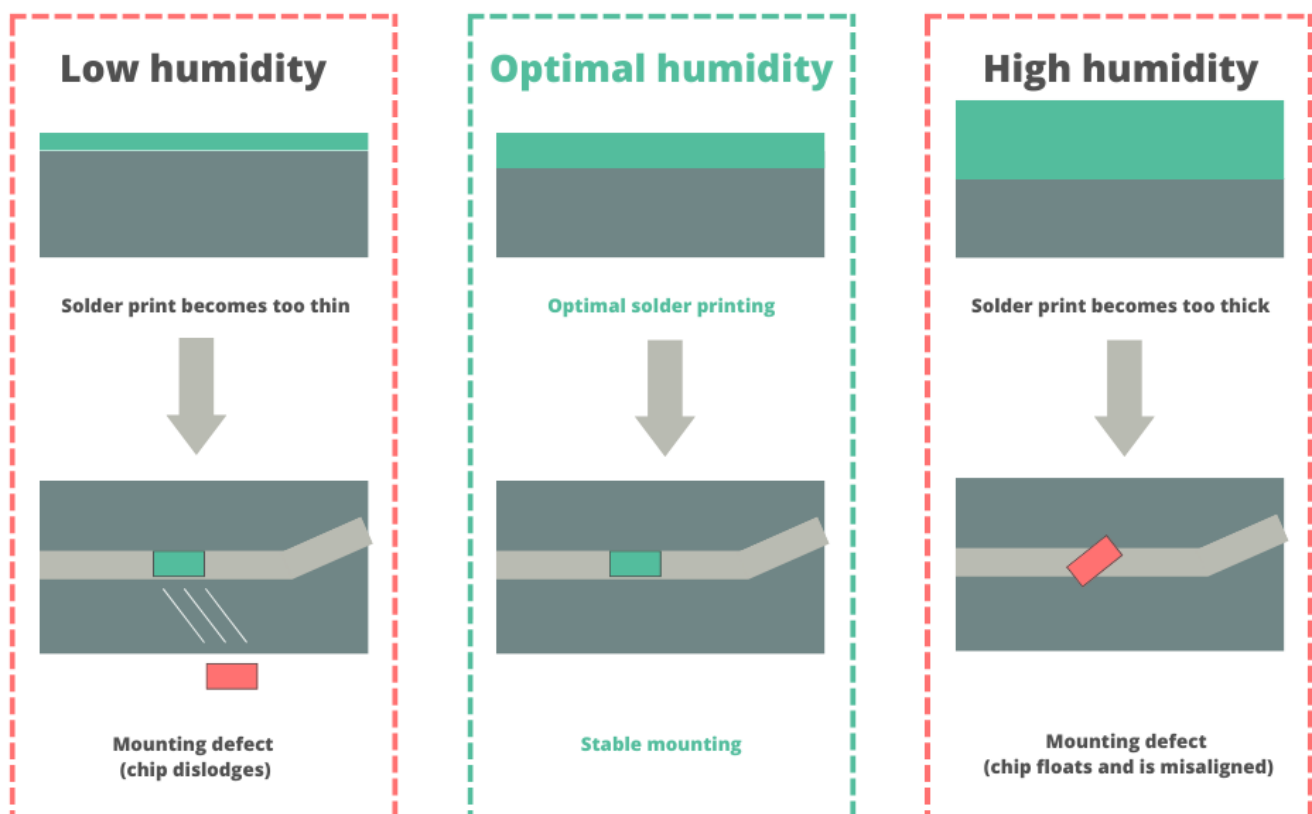
AKIMist will keep an even humidity level year-round, improving the mounting and assembly processes, and thus, the product quality. The mounting quality is influenced by the solder printing aspect which is affected by humidity.

### SOLDER PRINTING

An environment with a too low humidity level will lead to a thin solder printing and the chip will dislodge. On the contrary, a too high humidity level will lead to a thick solder print which will cause the chip to float and misalign.

### MACHINE ERRORS

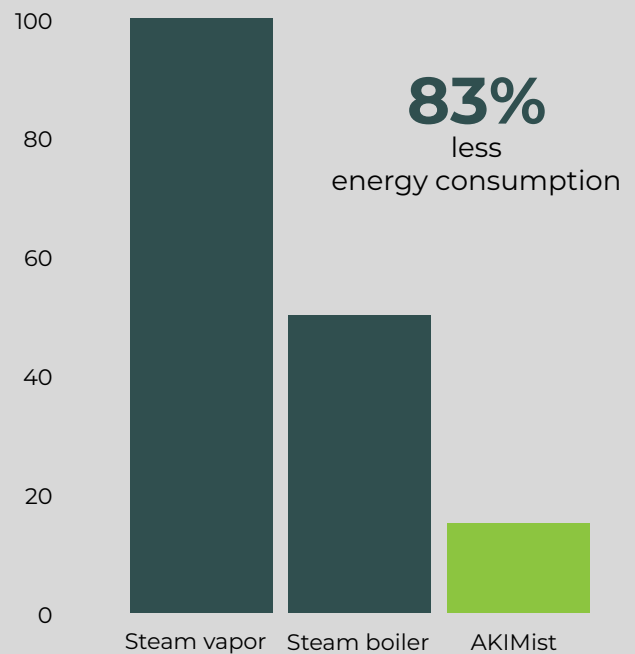
Humidifying the working area also prevents machine mounting errors due to static charge and solder thinning/drying. By reducing the risk of ESD, you also eliminate the risk of explosion or fire, which could cause a serious health risk to the staff and damage to the equipment. In general, humidification control ensures a longer life-span for the machines and equipment.



## THE ENERGY EFFICIENT HUMIDIFIER

### Energy efficient humidifier

- **AKIMist® “E”** uses 83% less energy than a conventional humidifier (1/5th).
- **CO2 emission** is 80% lower than conventional humidifiers (like steam).
- **AKIMist® “E”** has the double advantage of humidification while lowering the temperature (cooling) through atomization. This saves energy and cost on air conditioning.



## THE NON-WETTING HUMIDIFIER



### Non-wetting humidifier

- **The Dry Fog** humidifier AKIMist®“E” is recommended for precision part production where water droplets would be a problem.
- **The droplets** are so small (on average 7µm) that they will bounce back from the surface they touch without bursting.
- **No leaking** = stops spraying as soon as the compressed air is turned off.



**CUSTOMERS WHO SUCCESSFULLY IMPLEMENTED AKIMIST® TO PREVENT ESD**

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“A car audio manufacturer eliminated ESD on their production site by installing 46 units of AKIMist® on their SMT and inspection lines.



“

“A PCB manufacturer increased the quality of their products significantly by decreasing the mounting defects and enhancing solder printer quality.”



“

“A Printing company, which makes labels for printing on mobile phones and computers, eliminated the risk of fire ignition by installing AKIMist®”



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

- ✓ Double advantageous: Humidification and lowering the temperature (cooling) through atomization
- ✓ ESD prevention and dust suppression by maintaining even humidity level all year round
- ✓ High efficiency
- ✓ Low maintenance
- ✓ Easily adaptable to changes in floor layout

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

### Reducing product losses



- Defect rate reduced due to reduction of ESD
- Increase in lifespan of machinery
- Reduced risk of fire ignition

### Energy savings



- Reduction in air conditioning costs as the temperature is cooled down
- Less energy consumption
- Less environmental impact

### Productivity increased



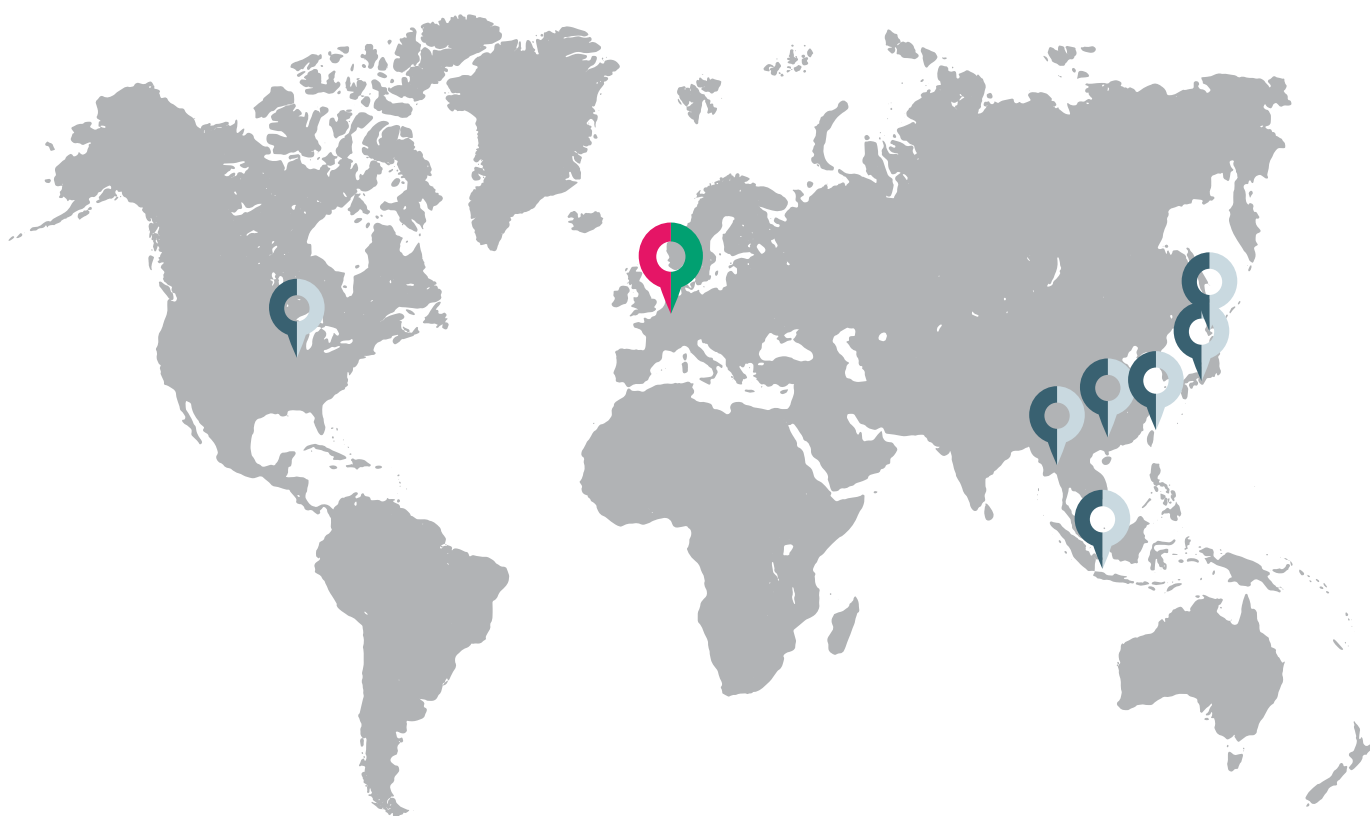
- Machine failure rate decreased
- Better and safer working environment for employees
- Reduction in employee sick days

### Product quality increased



- PCB solder printing and mounting quality increased
- Product quality increased due to dust suppression





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



# Ikeuchi Europe

The fog engineers

"Taking the path less traveled"

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