ESD Prevention
powered by: AKIMist, IKEUCHI
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” creates and maintains a humidity-controlled environment which generates less static charge and thus, will drastically reduce issues such as circuit damage and dust adhesion.

Humidity and temperature in factory
- Humidity level influenced by outside air conditions
- Temperature controlled by HVAC system
- Error rate increases when humidity level is low, especially during winter season

Consequences
- ESD
- Error rates
- Soldering defect
- Circuit damage
- Dust adhesion
- Bad mounts

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Humidity vs. Error rate

IKEUCHI’s solution: Dry Fog Industrial Humidification System AirAKI® with the humidifier AKIMist®“E”

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

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 plant environment.

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

- Low humidity: Solder print becomes too thin → Mounting defect (chip dislodges)
- Optimal humidity: Optimal solder printing → Stable mounting
- High humidity: Solder print becomes too thick → Mounting defect (chip floats and is misaligned)

Humidifying the working area also prevents machine mounting errors due to static charge and solder thinning/drying.

The Dry Fog humidifier AKIMist®“E” is recommended for precision part production where water droplets would be a problem. Spraying droplets at an average size of 7.5 µm, the droplets evaporate before reaching any surface, without wetting.

The pneumatic air-water spray method uses much less energy than steam humidifiers.

Steam humifier
Air heater

VS.

AirAKI®
Humidify and cool down

Energy Cost (ratio) CO2 Emissions (ratio)

83% DOWN 80% DOWN

1. Steam humidifier (electrode vapor)
2. Steam humidifier (boiler)
3. AirAKI®
Double-edged sword: dust suppression & humidification through atomization

Easy installation by adding-on to existing HVAC

High efficiency

Low maintenance

Easily adaptable to changes in floor layout

ESD prevention by maintaining even humidity level year-round

Productivity increased

PCB solder printing and mounting quality improved

Less static charge generated

Defect rate reduced (failure rate by ESD 1/10)

Product quality increased

Better working environment

Higher humidity

Energy savings

Reduction in air conditioning costs