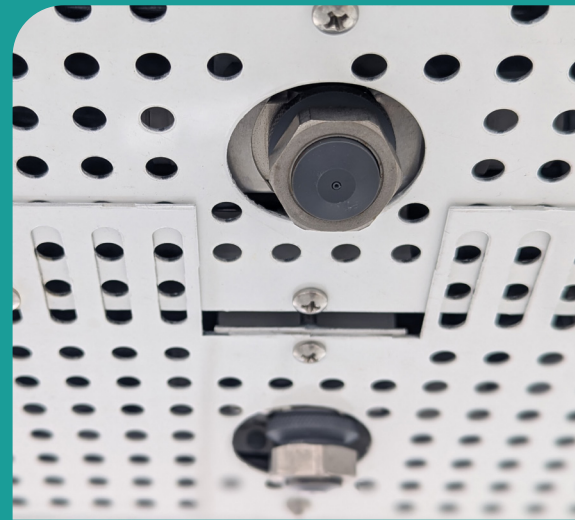


Air-Assisted Spray Nozzle Humidification (ASNH) for Conviron Plant Growth Rooms & Growth Houses

Air-Assisted Spray Nozzle Humidification (ASNH)

is a method of direct humidification injection and an effective way to maintain precise humidity levels. By atomizing purified water directly into the air conditioned stream, it quickly adds moisture as the air enters the growing space. This helps create stable environmental conditions that support healthy plant growth, transpiration, germination, and research consistency.



OPERATING PRINCIPLE

- Uses water supply pressure to atomize water through a small spray nozzle orifice
- Fine water droplets are introduced into the air stream
- Humidified air is then distributed into the chamber growth space

AHU INTEGRATION

- Spray nozzles are integrated with the air handling system
- Designed as an additive humidification option for various plant growth chamber applications

WATER PRESSURE

- Minimum operating pressure: 50 psi (3.5 bar)
- Should adequate pressure not be available, the CPSNH option is required

WATER CONNECTION

- 3/8 in. compression OD quick-connect fitting supplied on the chamber
- Connection is made to the building purified water supply
- Final connection location is coordinated with the chamber layout

WATER QUALITY

- Type IV purified water to ASTM D1193 - 06(2018) with the temperature between 34°F to 104°F is required for the humidification system
- Purified water helps reduce mineral build-up and nozzle blockage
- Water treatment requirements should be confirmed before installation

KEY BENEFITS & APPLICATIONS

- Accurate humidity control to maintain desired growing conditions and reduce plant stress
- Rapid response as moisture is added directly into the circulating air stream
- Integrated design within the chamber, providing seamless operation with Conviron environmental controls
- Low maintenance operation when supplied with reverse osmosis (RO) purified water, helping prevent mineral buildup and nozzle fouling
- Cost-effective humidification solution that uses existing building water pressure
- Ideal for research and production environments where consistent humidity levels are critical for reproducible plant performance and experimental results

One humidification approach. Multiple room applications.

GROWTH ROOMS

Uniform humidity across controlled rooms.

GROWTH HOUSES

Integrated with AHU and room services

RETROFITS

Adaptable for upgraded airflow layouts

RESEARCH SPACES

Supports crop, seed and phenotyping work.