



Why Radiant Heating & Cooling Dramatically Improves Indoor Air Quality

You've heard us say radiant systems deliver better comfort and efficiency — but the **indoor air quality (IAQ) advantage** is equally important, and often surprising.

It's simple: Radiant heating and cooling uses **near-zero forced air movement**. Without strong air currents, airborne particles succumb to gravity, settle to the floor, and are easily removed with normal cleaning.

Minimal Air Disturbance = Less Particle Resuspension

- Radiant systems heat or cool through surfaces (floors, ceilings, or panels) using **radiation**, not by blowing air.
- No ducts. No vents. No turbulence.
- Forced-air systems create constant air movement that kicks up settled dust, allergens, pet dander, pollen, mold spores, bacteria, and viruses back into the breathing zone.
- Radiant keeps the air remarkably still — particles drop out of the air much faster.

Floating in the Air

Pollen, dust mites, pet dander, mold spores, bacteria, and even viruses can float in the air when there is airflow. In typical forced-air HVAC systems, many of these particles (especially smaller ones) can stay suspended almost indefinitely. Radiant's near-zero velocity changes that equation dramatically.

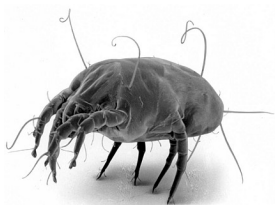
Key Supporting Facts

- Peer-reviewed studies using CFD modeling show radiant systems significantly reduce airborne particle concentrations compared to forced-air systems.
- Eliminating ductwork removes a major reservoir for dust, mold, and microbes that forced-air systems then distribute throughout the house.
- Radiant systems are especially beneficial for people with allergies, asthma, or respiratory sensitivities.

Important Note: Radiant excels at temperature control (sensible loads). It pairs well with a **small, low-CFM dedicated ventilation + dehumidification system** (such as a DOAS or ERV) that provides fresh air and humidity control **without creating turbulence**.

Result: Cleaner, healthier air, quieter operation, better comfort, and higher energy efficiency.

What's in Your Air?



Electron-Microscope
View of Common Indoor
Air Quality Problems

