

# Indoor Air Quality

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Case Study  
QUALITY & INNOVATION

## Just What the Doctor Ordered

**The L Series<sup>®</sup> product line proves to be the right prescription to help allergist solve indoor air quality problems.**

### The Challenge

Dr. Alfred Johnson treats patients for allergies and chronic illness. The one thing he didn't want or need was for his patients to get worse while sitting in his office. So, when Dr. Johnson opened his new Johnson Medical Associates clinic in the Dallas suburb of Richardson, he turned to Hammack Service Co., a local Lennox dealer, for help.

What Dr. Johnson was seeking was the cleanest indoor environment for his patients; an environment free of harmful chemical odors, fumes, mold, and pollen.

After listening to Dr. Johnson's requests and surveying the building, Jim Kuhs, Hammock's service manager, knew he would need some advice. He knew he could rely on Lennox to offer the expertise he needed.



So, Kuhs contacted the Lennox Indoor Comfort & Air Quality team at Lennox' Product Development & Research lab in Carrollton, Texas.

## The Solution

"After reviewing the clinic's needs, Hammack selected four high efficiency Lennox 5-ton L Series® rooftop units with the Humiditrol™ option." "While providing temperature and humidity

**Humiditrolä dehumidifies without overcooling.**

control for the offices by using refrigerant reheat technology, the units dehumidify

without overcooling the clinic," said Mark Jackson, Lennox Senior Staff Engineer.

By controlling humidity, mold growth is minimized while additionally reducing dust mites."

The configuration is also designed to provide multiple comfort zones within the clinic to allow separate temperature control for each

section of the clinic. But that was only part of the

battle. One of the biggest challenges to improving indoor air quality (IAQ) is how to keep outdoor contaminants from coming inside. Hammack and Lennox solved this problem two ways.

First, by filtering outdoor air through high efficiency particulate air (HEPA) filters, and second, by treating it with

**Lennox can help you with your Indoor Air Quality concerns.**

Ultraviolet (UVC) light. This process not only helps provide clean, fresh ventilation air in accordance with ASHRAE requirements; it also pressurizes the building. The UVC light also helps reduce the concentrations of mold, bacteria and viruses, Jackson said.

Filtering the outside air through HEPA filters reduces the number of particles coming in from the outside by 99.97% microns at 0.3 microns.

Even return air is filtered. All return air grills were fitted with MERV 8 (Minimum Efficiency Return Value, per ASHRAE) filters to continuously clean the recirculated air before entering the ducts.

The Lennox team also assisted with eliminating pollutants at the source and with

monitoring the level of pollutants. Hard surface flooring was

installed throughout instead of carpeting, and water-based paints, which reduce off-gassing chemicals, were utilized.

HEPA vacuum cleaners were used to clean the building, and only sealed lights were used to prevent air leakage through light fixtures. Lastly, the office was put under positive pressure to minimize leakage of dirty air into the building.

Dr. Johnson even requested that all the metal surfaces having air contact in the system be degreased with soap prior to installation in an effort to minimize the off-gassing from oil on the metal parts.

**Improve Indoor Air Quality by eliminating pollutants at the source.**

Foil faced insulation was used, and mounting and wiring holes were sealed to reduce air leaks.

“Even during construction, all supply and return vents were taped off and sealed to prevent any paint and drywall dust from contaminating the air ducts prior to commissioning.” Steve Attri, Indoor Comfort and Air Quality Manager for Lennox, said.

“This is an excellent example of looking at the whole building as a system,” Attri added. “It’s not always as simple as adding another component.”

For Lennox and Hammack, the challenging effort was a success. For Dr. Johnson’s patients, better indoor air quality could mean a better quality of life.