



## Humidity is Integral to Operations at Quest Diagnostics

DR Series

- Humidity Control
- Energy Savings
- Reduced ESD



# Condair Provides A Custom Fit Solution For Optimal Humidity Levels At Quest Diagnostics

## Project Overview

**Customer:** Quest Diagnostics

**Location:** Lenexa, Kansas

**Facility Size:** 60,000 sq. ft.

**Application:** Medical / Laboratory Processing

**Product:** DR Series

### The benefits of Condair's direct room humidification

- Precise humidification control
- Low operating costs, and reduced cooling costs
- Minimal maintenance
- A completely hygienic solution

## Abstract

Quest Diagnostics is the world's leading provider of diagnostic testing, providing public and private access to screenings and customizable health and wellness programs for companies. In 2016, Quest Diagnostics' clinical laboratory facility in Lenexa, Kansas, updated their HVAC system; a modification to the temperature system meant they needed a new, innovative humidification solution. Quest Diagnostics needed to maintain optimal humidity levels which are integral to the facility's operations and indoor air quality.

## Challenge

Quest Diagnostics clinical laboratory facility in Lenexa features state-of-the-art testing and diagnostics technology. The facility consists of two separate testing areas; one lab is 36,000 sq. ft. and the other 24,000 sq. ft. The facility must maintain a regulated and strict indoor climate for accuracy in test results; the labs must maintain an environment of 70°F and 35% relative humidity (RH) for their testing purposes. With the facility running 24/7 operations, Quest Diagnostics required a high-performance, dependable humidification solution. They required a humidification solution that was powerful, and would provide optimal comfort for



employees, help control electrostatic discharge (ESD) with high-tech equipment and support effective production and processing for lab results – and Condair was up to the challenge.

## Solution

To meet the needs of the Quest Diagnostics facility, Condair implemented its DR Series Direct Room adiabatic humidification system. This solution directly humidifies the space, instead of injecting humidity into the air through the ductwork. This high-performance humidification system provides a more consistent control of humidity throughout the facility.

The adiabatic system offers premium humidification control by pumping treated water from a main station through tubing to atomizing high-pressure nozzles, injecting the water into the air as a fine mist. The adiabatic system offers powerful humidification, as well as evaporative cooling power for better temperature control in the space.

“The new evaporative cooling and humidification system works beautifully,” said Stuart Braden, Vice President, W.L. Cassell & Associates, part of the team that designed the custom-fit solution for Quest Diagnostics using Condair’s products. “The water evaporates quickly and you can feel the cooling in the air.”

“ The Condair product delivers a great evaporative cooling benefit through space humidification and powerful added capacity to the air handling unit. ”

John Hart, Senior Project Manager,  
EMCOR Services Fagan

## Results

Through the installation of Condair’s adiabatic humidification system, Quest Diagnostics is experiencing better temperature and humidity control throughout their diagnostics facility and the extra benefit of evaporative cooling. Quest Diagnostics is also experiencing an electrical savings and maintenance savings with the new humidification system. Condair’s new solution eliminated 294,000 watts of electric elements and also took advantage of evaporative cooling which helped to further save on indoor air temperature control year-round.



Condair’s direct room humidifier provided Quest Diagnostics with a more consistent control of humidity throughout the facility.



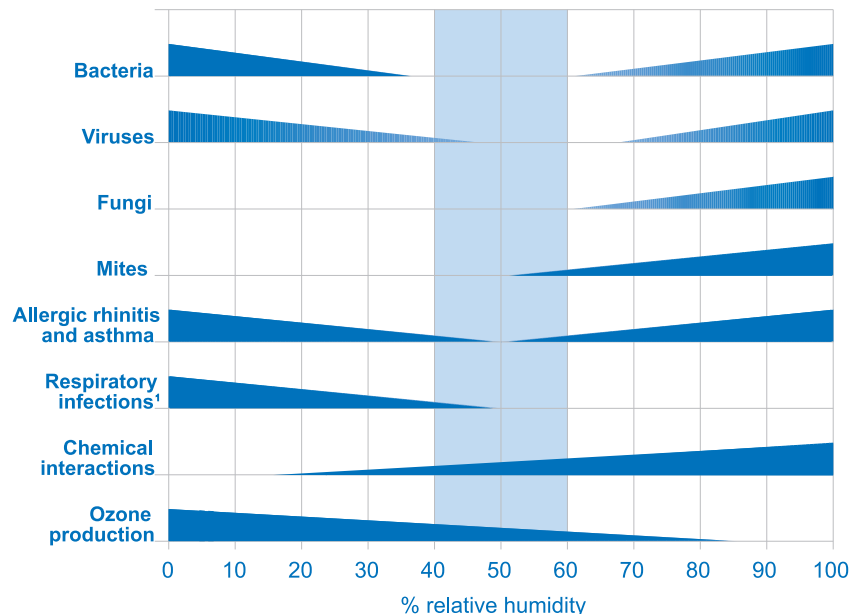
“The Condair product delivers a great evaporative cooling benefit through space humidification and powerful added capacity to the air handling unit,” said John Hart, Senior Project Manager, EMCOR Services Fagan, who was integral in bringing the benefits of Condair’s solution to Quest Diagnostics. “We couldn’t be more happy with the results after installation.”

Condair’s innovate humidification solution has allowed Quest Diagnostics to elevate their indoor air quality without any downtime in facility operations. The success yielding from this partnership is a testament to Condair’s dedication and commitment to helping its customers to achieve and sustain optimal levels of air quality.

### The Sterling Chart

The Sterling Chart illustrates how relative humidity affects health and well being and shows that the optimal air humidity level for humans is between 40 to 60% RH. This optimal humidity zone minimises risks to human health from biological contaminants and pathogens.

Colds, viruses, respiratory infections, dry eyes, itchy and cracked skin are all symptoms that are usually prevalent in the cold dry months of the winter when the indoor RH is at its lowest.



<sup>1</sup>Insufficient data about 50% RH.  
E.M. Sterling, Criteria for Human Exposure to Humidity in Occupied Buildings, 1985 ASHRAE.

### About Condair

With over 700 employees, the Condair Group is the world’s leading manufacturer of commercial and industrial humidification systems, setting standards globally for energy-efficient and hygienic solutions through its main Condair brand. Condair is represented in 16 countries by its own sales and service organisations and is supported by distribution partners in a further 50 countries. Condair operates production sites in Europe, North America and China.