LUMALIER

The Trusted Authority for Energy Efficiency and Decarbonization

How Lumalier's in-AHU UVC contributes to decarbonization and energy efficiency:

- Keeps coils clean 24/7/365.
- Restores Delta-T and thermal efficiency, improves air flow, reduces static pressure and fan amperage to achieve **12%-20% energy cost reduction/3 to 5 year energy ROI**.
- Reduces CO_2. Annual KWH savings/1425 = metric ton reduction of CO_2.
- Generates greater condensate volume to lower Relative Humidity (RH%) in the facility.
- Reduces outside air; UVC Air treatment = 8 to 20 additional Air Change/Hour equivalency (ACHe).

The ECO Solution (Environmental Coil Optimization)

Environmental Coil Optimization destroys the insulating biofilm to 'release' dirt and debris that contribute to coil fouling. Coil optimization returns the Air Handling Unit (AHU) to as-new specification to help achieve the benefits listed by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), while providing substantial and immediate energy efficiency that results in rapid ROI payback.

Jurisdictions globally are confronting climate change and recognizing that building decarbonization is an important component in their efforts.

The worldwide building sector accounts for about 40% of energy-related carbon emissions and buildings remain a major sector that lacks sufficient mitigation policies.*

Challenges: Energy Efficiency

Problem: To truly keep coils clean and performing to original specifications, coils may need to be cleaned four times per year (quarterly) which is expensive, labor and chemical intensive, and unrealistic.

Solution: Lumalier's In-AHU and In-Duct UV fixtures are specifically engineered for the ideal treatment of coils, engineered sand scaled specifically for the coil's exact height, width, and CFM of the HVAC system.

*Source: https://www.ashrae.org/about/ashrae-task-force-for-building-decarbonization

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www.lumalier.com
1931 Thomas Road Memphis TN 38134
901-800-1709

UVC Disinfection Products for Energy Efficiency

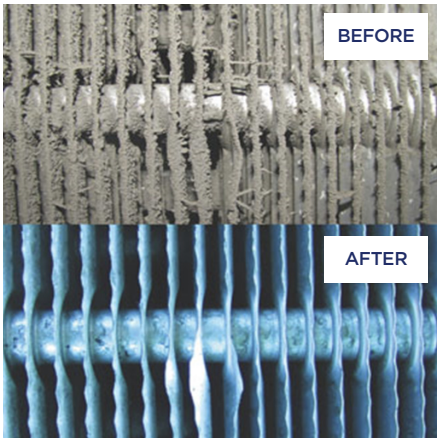
UVC for Indoor Air Quality (IAQ) and Energy Efficiency In AHU and In Duct UV Fixtures

In-AHU and In-Duct UV fixtures, such as the Lumalier AR Series UVC Fixtures, are installed inside ventilation systems. In addition to providing high-level, facility-wide disinfection of airborne infectious pathogens, these fixtures provide facilities with other important benefits.

- Eliminates biological growth on coils and in the drain pan that can cause coil fouling, odors, and premature failure of air conditioning equipment.
- Provides an ROI benefit with reduced energy consumption and maintenance.
- Achieves the greatest square foot coverage at the lowest cost.
- Uses the existing ventilation system to disinfect and distribute air.

AHU Benefits:

1. Eliminates all mold and biological growth on coil fins, drain pan, fan motor and surrounding plenum, and odors are eliminated.
2. Bio-free coils generate greater condensate volume and lower Relative Humidity (RH%) in the facility. Increased condensate properly removes debris as originally specified = cleaner coils and cleaner pans.
3. Delta-T and thermal efficiency restoration, static pressure reduction, improved air flow, reduced fan amperage draw = return to as-built specifications.
4. Energy savings = 8% to 20% / energy ROI = 1 to 4 years.
5. Keeps coils clean 24/7/365.



Maintenance Benefits:

1. Eliminates need for chemical coil cleaning = labor and chemical savings.
2. Eliminates need for pan pills or odor pills in pans or plenums.
3. More efficient system = fewer service issues. Lifecycle of AHU extended by approximately 2 years.

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