



Ultraviolet Lights for Daikin Air Handlers

Improving IAQ and IEQ with UV Solutions

Daikin air handling equipment can be specified with factory-installed ultraviolet lights (UVs) on the downstream side of all cooling coils and above the unit drain pan.

All ultraviolet lights used in Daikin products are pre-engineered and factory installed for maximum effectiveness in delivering indoor air quality (IAQ) and indoor environmental quality (IEQ) solutions for building applications. The ultraviolet lamps irradiate the coil surface with light in the 254 nanometer wavelength of the light spectrum (UV-C). UV-C light has been proven effective in killing most bacteria, molds and viruses in both laboratory and practical application. The completed package of Daikin equipment and ultraviolet lights includes Intertek Services Inc. (ETL) safety agency certification.



Air Handlers

- RoofPak® applied rooftop systems
- Vision® indoor and Skyline® outdoor systems

Features

- All Daikin products use lamps that are listed under UL Category Code ABQK specification, HVAC Accessories, Air Duct Mounted.
- High-output, hot cathode lamps produce Ultraviolet



Germicidal Irradiation (UVGI) of 254 nm that constantly irradiates the coil surface.

- Automatic disconnects are standard on all doors to prevent eye contact with the UV-C ultraviolet light.

Special filtering windows block ultraviolet light, allowing the coil, drain pan and lights to be inspected while in use from outside the unit.

Benefits

- For pennies a day, UVGI improves IAQ/IEQ by destroying mold, fungi, and bacteria on coil and drain pan surfaces.
- Clean coil surfaces maintain peak heat transfer for “near new” performance and lower energy costs.
- Reduced coil and drain pan maintenance requirements and costs.
- Rugged design of ultraviolet light device promotes long life.
- Factory installation promotes proper placement for maximum effectiveness and eliminates field labor costs.
- Satisfies GSA federal facilities standard requirements for UVGI lights to be incorporated downstream of all cooling coils and above all drain pans to control airborne and surface microbial growth and transfer.

As building design and construction has evolved over the past 30 years, so too has the HVAC industry, keeping pace with the ever-increasing demands placed on the products and services that we supply. Sometimes, the job requirements have forced tradeoffs to achieve better indoor air and environmental quality or higher energy efficiency. Ultraviolet light technology addresses both.

Why UV lights?

The HVAC industry has worked well for 100 years with only limited use of ultraviolet lights in clean rooms and other sensitive applications. However, the devices are now a very logical and cost-effective addition to almost any air handling system in almost any application. This is particularly true in areas where ambient conditions routinely involve high humidity levels.

In fact, the most recent GSA facilities standard for federal facilities calls for UVGI lights to be incorporated downstream of all cooling coils and above all drain pans to control airborne and surface microbial growth and transfer.

The obvious benefit of UVGI lights is the reduction of mold, bacteria, fungi and associated toxins that can enter the air stream. Because these items collect on wet cooling coils and drain pans, they can be effectively killed by constantly irradiating those surfaces with UVGI lights. The combination of high efficiency filtration and UVGI lights has been shown to be effective at improving and maintaining IAQ/IEQ, even when added to an existing air handling system. The technology has advanced to the point where UVGI lights can be easily applied in virtually any air handling equipment – at a moderate cost – as long as there is a power source.

Other benefits associated with UVGI lights include reduced maintenance expense and coil performance that is maintained at its peak. The continuous “cleansing” action of UVGI lights serves to continuously clean the coil and drain pan. While regular maintenance and cleaning is always recommended, the task should involve much less time, effort and chemicals. Because coils remain cleaner, coil pressure drops and heat transfer characteristics can remain at “near new” conditions. This translates into more efficient heat transfer and higher energy efficiency over the life of the equipment.

In Summary

UV technology has advanced to the point where a case can be made to apply it in virtually any air handler application. In addition to the IAQ/IEQ benefits, the potential cost savings generated by using UVGI lights can more than justify the expense to install and operate them. While UVGI lights can not replace traditional filtration, they can augment its effectiveness and potentially make any air handling system more effective at delivering good IAQ/IEQ.



**Vision® Indoor
Air Handling Systems**



**Skyline® Outdoor
Air Handling Systems**



**RoofPak®
Rooftop Systems**

For more information about UV lights and our complete line of air handling systems, contact your local Daikin Applied Sales office or visit www.DaikinApplied.com to find an office near you.