

UVGI FOR HVAC APPLICATIONS

This webinar will offer you valuable insight to help users ensure accuracy of the Heating, Ventilation, and Air Conditioning (HVAC) system designed.

It will also highlight the common problem of HVAC's deteriorating performance in the absence of UV-C lamps and the benefits when such lamps are used.

*Structural (M&E)
PDU's for PEs and CEngs
(To be confirmed)*

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S\$ 21.40 per pax

Non-members

S\$ 42.80 per pax

Price inclusive 7% GST


3 PM - 5 PM
13 APR 2022
WED
Zoom Webinar



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DISCUSSION & INSIGHT

- UVGI for HVAC – Sizing of UV-C Lamps to Desired Dosage
- Effects of UVGI on Cooling Coil and Sizing of UV-C Lamps

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FRANCIS LEE
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UVGI for HVAC – Sizing of UV-C Lamps to Desired Dosage

The topic covers some of the NEA's technical advisory on the use of Air Cleaning Technologies to mitigate the aerosol transmission risks of COVID-19, focussing on the application of UV-C lamps (similar to ASHRAE's guidelines).

This technical talk will focus on sizing of UV-C lamps required to meet the **desired specified dosage (1500 microwatt S/cm² or 15 J/m²)**, taking into account, the location of the UVC lamps installation, the lamp cooling effects and their characteristics such as lamp power (UV Power/ UVC watts).

As the UV-C lamps are usually installed inside the Air Handling Unit, the operating conditions of the AHU are also important to note, such as temperature, velocity and the internal width height and length (unblocked) of the AHU.

The technical talk explains the co relation between UV-C lamps and operating conditions of the AHU which affects the number of UV-C lamps required to meet the specified UV-C dosage, following the methodology in the UVGI Handbook, authored by Prof. Waldy Kowalski.

Effects of UVGI on Cooling Coil and Sizing of UV-C Lamps

This topic highlights the common problem of HVAC system, in particular mould, fungi and surface microbes infesting the cooling coil surfaces resulting in the inefficiency of the Air Handling System in meeting designed temperature and air capacity.

Using the UVGI Handbook as a guide, the technical talk focuses on the benefits of installing UV-C lamps, the method of installation, UV-C lamp sizing criteria and the operating conditions of the AHU required to meet the **desired Mean UV-C irradiation or intensity** (striking the cooling coil).



Using information and data from the UVG Handbook, Francis' technical talk is divided into two sections with Q&A session at the end of each section.

About the Speaker

Francis Lee is the Founding Director and General Manager at Airverclean Pte Ltd, which has a subsidiary in Malaysia (Airverclean M Sdn. Bhd.).

A pioneer in Ultraviolet Germicidal Irradiation (UVGI) System in Singapore, Francis has over 30 years of experience in the sale, marketing and designing of electrostatic air cleaners for kitchen exhaust and Air Handling Unit applications. Since 2003, after the SARS outbreak and under the tutelage of the late Mr. Forrest FencI (ASHRAE Fellow & Distinguished Lecturer in UVGI in the early 2000s), he has also been actively involved in the sizing and designing of UVGI system for microbial control on AHUs' cooling coil for coil surface disinfection and supply ducts for air disinfection.

Key projects that Francis has managed include several SMRT projects, such as the Downtown Line and Thomson Lines 1 to 5, GIC @ Capital Tower, as well as those at Marina Bay Sands Casino and Convention Centres, Singapore Expo Halls, AMK Hub, NEA Building, ST Micro and Changi Terminal 4.

Francis Lee is an active member of ASHRAE Singapore Chapter for the last 17 years. He is currently serving as Chapter Regional Conference (CRC) Action Chair and served as Chapter President from 2012 to 2013.

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