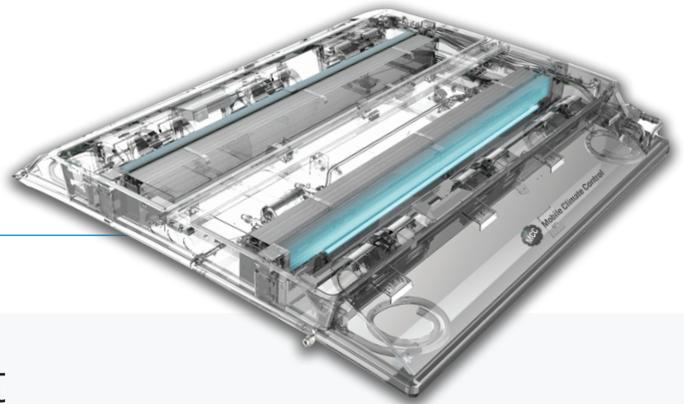# Aire-Shield™

Family of Air Sanitization Products

Innovating to create comfortable vehicle climates has been the cornerstone of Mobile Climate Control's success in mass transit for decades. But recently the entire world has experienced a rapid change with regard to awareness surrounding airborne illnesses, and innovating to ensure the safety of vehicle operators, maintenance personnel, and passengers has become just as important. MCC is proud to have developed a line of products to improve the air quality inside your bus.

The MCC Aire-Shield UVC system is designed to improve air quality and reduce the spread of viruses and bacteria through the HVAC system. MCC Aire-Shield UVC utilizes Ultraviolet Germicidal Irradiation (UVGI) as a disinfection method, using short wavelength ultraviolet light (UVC) to kill or inactivate microorganisms passing through the HVAC system. UVGI accomplishes this by destroying nucleic acids and disrupting their DNA, leaving them unable to perform vital cellular functions. UVC light bulbs are installed between the heater coil and the blowers to treat air as it passes through the HVAC unit, killing mold, bacteria and viruses. Frequent air recirculation through the bus is utilized to sterilize airborne bacteria and viruses, treating air inside the bus up to once per minute on high speed.

Eco 353 with Aire-Shield UVC

Aire-Shield UVC Air Treatment

- 99.96% kill rate after 6 air changes*
- 18,000-hour lamp life
- Sterilizes air as it passes by the evaporator
- Reduces evaporator maintenance
- Available for retrofit and new MCC A/C systems
- Interlock switches prevent accidental exposure
- UVC light is contained within the HVAC unit

- 24VDC, 4A per UVC lamp
- 46" & 60" Teflon coated lamps emit 17-25 UVC Watts
- Teflon coating contains contents in case of breakage
- Lamp emits 100% 254nm UVC light
- Sterilizes bus air volume up to once per minute
- Does not produce Ozone

* Results based on modeling from Eco 353 systems, data from laboratory testing of existing coronaviruses, UVC bulb intensity after 9,000 hours of operation, and HVAC unit airflow. Without enough data on COVID-19 (SARS CoV-2), UVC dosage values of other viruses in the SARS family are used for the novel coronavirus kill rate.

Disclaimer:
This UVGI equipment does not provide sanitization of surfaces.
This UVGI equipment reduces the bulk concentration of microorganisms curculating in the airstream. In general, UVGI equipment located inside a bus air conditioning system does not completely eliminate the presence of viruses or microorganisms from the circulating air in the passenger cabin. More than 99% efficacy for the air that passes by the lamps in a recirculation mode is possible, but not 100%.
This UVGI equipment does not replace Personal Protective Equipment (PPE). It will not protect a passenger from other passengers, and it will not protect a passenger from touch point surfaces.
Fresh air will only dilute the concentration of microorganisms in the passenger cabin air.
MCC offers mitigation to improve the air quality as it passes through our HVAC equipment. MCC's UVC sanitizing lamps only treat the air that passes within the lamp's range. This system only treats microorganisms passing through the unit; any viruses or bacteria carried by larger droplets might not pass through the HVAC unit.

Warnings and Safety:
Lamp breakage is extremely unlikely to have any impact on users' health. If a lamp breaks, ventilate the area for 30 minutes, then remove the damaged parts while wearing gloves. While the protective Teflon coating should stop a broken lamp from shattering, proper PPE must be worn when removing broken lamps. Do not use a vacuum cleaner. Always follow local guidelines when disposing of hazardous materials.
DANGER: Risk Group 3 Ultra-Violet product. These lamps emit high-power UV radiation that can cause severe injury to skin and eyes. Avoid eye and skin exposure to unshielded product. Use only in an enclosed environment which shields users from the radiation.

Mobile Climate Control

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