

STERIL-AIRE®

*World Leaders for
Retail UVC*



Brochure for International use only.

How Steril-Aire Benefits Shopping Malls

INTERIOR ENVIRONMENT

Improved IAQ

- Safe environment for families and staff
- Air from AC System up to 99% free of bacteria and viruses*
- Reduction in staff sickness and absenteeism**
- Reduction in distribution of customer germs / influenza **
- Partial Pandemic protection ***
- Reduction in VOCs & odours*
- Control of recirculated food court odours*
- Partial protection against Legionnaire's disease



DE Fixture and UVC Emitter®



SE Fixture and UVC Emitter®

FACILITIES ****

Automatic coil cleaning

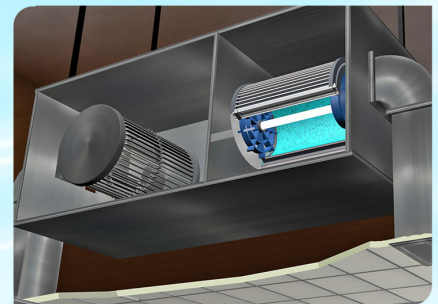
- Reduced AC maintenance
- Reduction of maintenance labour & chemical costs
- AC energy saving (10-20%)
- Reduction in carbon footprint
- Coil Condensate Recovery/Recycling

Extension of equipment life:

- Coil
- Chiller



Unitary Kit



Steril-Zone Ceiling Mounted Unit



Steril-Zone™

* Subject to UVC Dosage applied

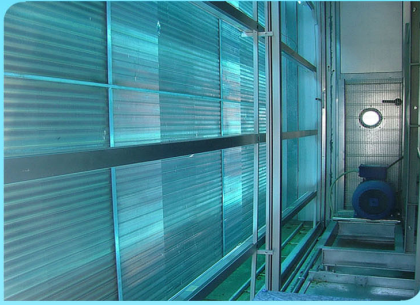
** See Case Study: McGill University, Montreal, Canada

** ASHRAE Airborne Infectious Diseases Position Document

*** Use of Steril-Aire UVC at Tan Tock Seng Hospital at height of SARS pandemic (2003)

**** See Case studies at www.steril-aire.com

Retailers Use of Steril-Aire UVC



HVAC system

- AHUs
- Fan-coils
- Splits
- Wall Package Units
- Unit Ventilators
- Heat Wheels
- Air Curtains
- Refrigeration

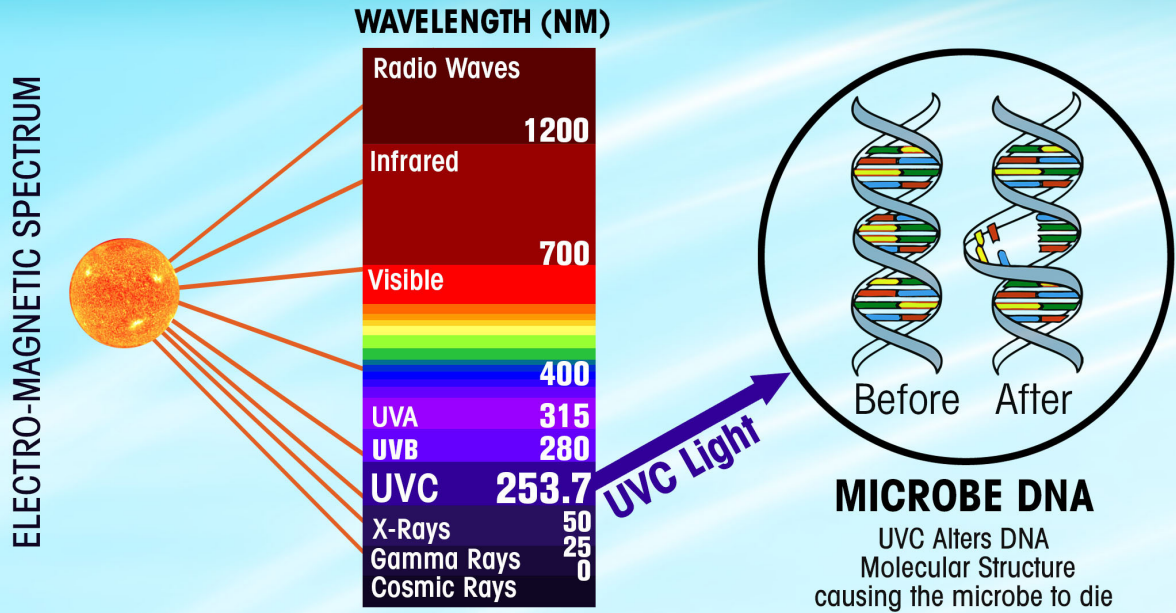
Locations

- Public Areas
- Stores
- Food Courts & Restaurants
- Restroom
- Elevators
- Family Play Areas
- Cinemas
- Cold Storage
- Waste Disposal Areas
- Grease Traps
- Offices
- Extracts
- Cooling Towers

In Room

- Steril-Zone
- Ceiling Mounted
(Only for use when room is unoccupied)

The Science of Steril-Aire UVC



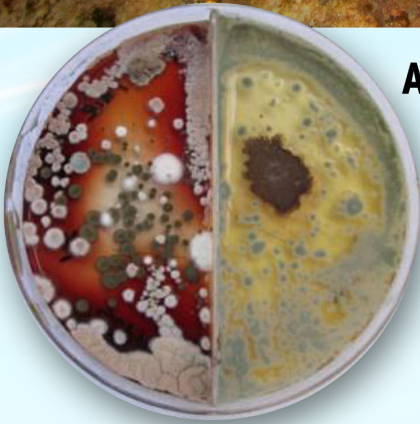
Air-Conditioning Cooling Coil



Before Steril-Aire



After Steril-Aire



AIR BIO-TEST

Before Steril-Aire

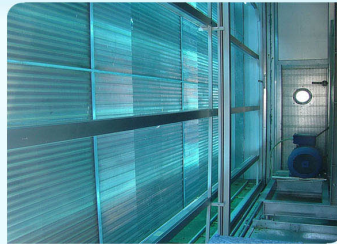
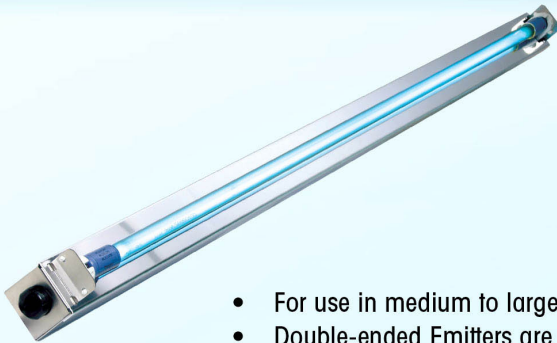


After Steril-Aire

Steril-Aire UVC Products

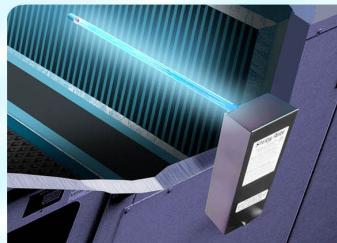
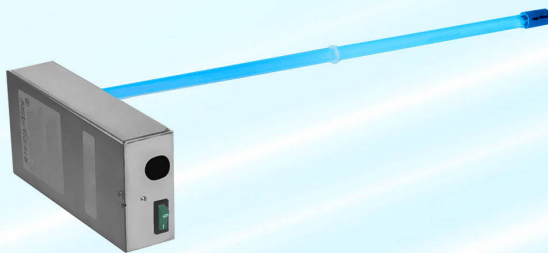
Full catalogue at www.steril-aire.com

DE SERIES UVC EMITTER[®]



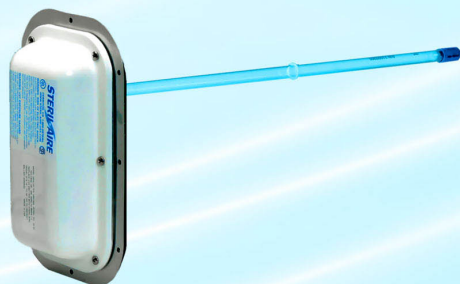
- For use in medium to large AHUs.
- Double-ended Emitters are mounted internally and fitted end-to-end to fit any size coil.
- Available in: 18", 24", 30", 36", 42", 62" inch lengths (46, 61, 76, 91, 107, 157 cm lengths).
- Universal power-supply: 110 to 277V - 50/60 Hz

SE SERIES UVC EMITTER[®]



- For fan-coils, heat-pumps, unit ventilators, packaged AHUs, terminal units, and ducts.
- Mounted on exterior of AHU. Tube installed through a one-inch hole (2.54 cm) drilled through the AHU casing.
- Available in 12", 16", 20", 24", 30", 36", 42" inch lengths (30, 41, 51, 61, 91, 107 cm lengths).
- Universal power-supply: 110 to 277V- 50/60 Hz
- Also available as an internally mounted kit with 12" to 61" (30 to 155 cm) SE Emitter tubes.

SEN SERIES UVC EMITTER[®]



- For exteriors including roof-top units, AHUs, heat-pumps, fan-coils, terminal units, and ducts.
- NEMA 4 rated.
- Mounted on exterior of AHU. Tube installed through a one-inch hole (2.54 cm) drilled through the AHU casing.
- Available in 12", 16", 20", 24", 30", 36", 42", inch lengths (30, 41, 51, 61, 91, 107 cm lengths).
- Universal power-supply: 110 to 277V- 50/60 Hz

Validation Multiple Shopping Malls Around the World

Case Studies (www.steril-aire.com)

Shopping Mall, USA:

- Zero mould growth
- 15% AC energy savings
- Air fresher and cleaner
- "Management and maintenance staff very happy"

Shopping Centre, Australia:

AHU TEST RESULTS ENERGYWIZE:

*Net Cooling Capacity Gain: 62 kW. Improvement at 90 days of 48%
Chilled Water Delta T: Coil Heat Transfer Efficiency Gain of 32%*

"Our clients need to be certain that EnergyWize will deliver. Steril-Aire was able to meet the core requirement of energy-saving and also provide significant value add-ons across maintenance and air quality. This has been astounding for both Energywize and our clients, enabling us to actively promote the use of Steril-Aire across all our client groups, becoming the mainstay for all of our energy efficiency projects" - Zac Gilder, Managing Director, Energywize Pty Ltd

Industry UVC Acknowledgement: ASHRAE

- Director's Letter June 24th 2009
- Chapter 17 - 2012 ASHRAE Handbook (HVAC Systems and Equipment)
- Chapter 60 - 2011 ASHRAE Handbook (HVAC Applications)

USA HOMELAND SECURITY RESEARCH

Dose $\mu\text{W}\cdot\text{sec}/\text{cm}^2$ per watt

STERIL-AIRE
SANUVOX TECHNOLOGIES
ULTRAVIOLET DEVICES
NOVATRON
LUMALIER
DUST FREE
ATLANTIC UV
AMERICAN UV
ABRACAIR LLC



Shopping Mall, USA



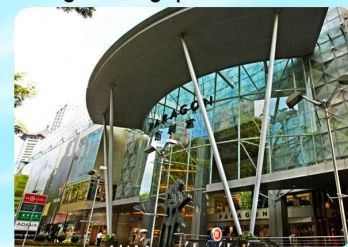
Shopping Centre, Australia



Midway, Brazil



Paragon, Singapore



Westfields, Sydney, Australia



(Kitchen & Food Court Exhausts)

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