

# AeroNomics®

## AIR STERILIZER



## GENERAL

This application concerns the use of AeroNomics lamps to disinfect the air by means of room or air duct irradiation of germicidal UV Rays and thus protect personnel from infection by airborne germs.

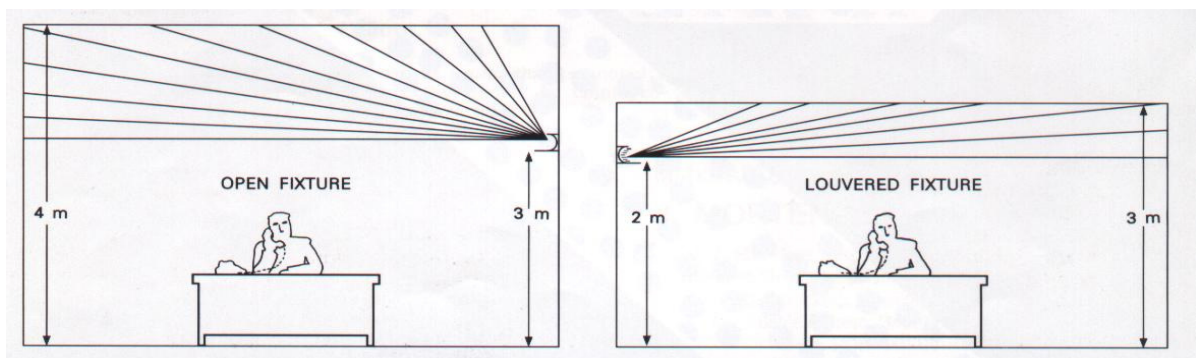
For personal protection room irradiation applications, lamps are mounted in indirect fixtures placed on the wall or suspended from the ceiling, so that the upper air of the room is completely irradiated with the ultraviolet but with none of the rays reaching the occupants of the room. This method of air disinfection is quite efficient because the normal air currents and drafts in the room cause the bacteria in the air to rise and fall from floor to ceiling many times an hour. Every time the bacteria are carried up into the ultraviolet rays, they are destroyed and the disinfected air then descends toward the floor. The continual convection and disinfection of air prevents the bacterial count from building up as is normally the case, especially in poorly ventilated and crowded rooms. This method of room irradiation is comparable to changing of the air in the room at least once a minute.

The fixture used with the AeroNomics tube should be designed to project the ultraviolet rays out across the room so as to irradiate, ~~v~~every and completely, the upper portion of the air. At the same time, it should prevent direct rays, or excessive reflected and scattered rays from the walls and ceiling, reaching the occupants of the room.

Where extra precaution is required against reflected ultraviolet rays, as in low ceiling areas, it is recommended that louvered fixtures be used which restrict the ultraviolet radiations between the horizontal or zero degree line and the 45° angle above the horizontal.

In order to simplify the application of the lamps in room irradiation, the number of AeroNomics tubes required for an installation is calculated on the floor area and ceiling height of the room to be irradiated.

## FIXTURES FOR INDIRECT IRRADIATION

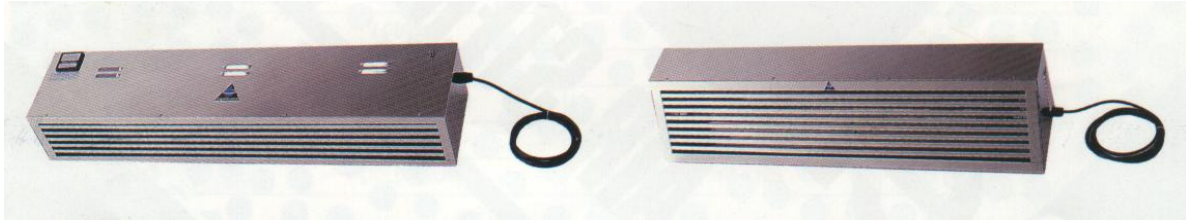


### *Some Areas of Use*

- Operation Theatres
- Clinics
- Sterile Rooms
- Microbiological Laboratories
- Offices and Factories
- Poultry and Pig Farming
- Pharmacies
- Hospital Wards
- Intensive Care Areas
- Food Processing Plant
- Cold Rooms
- Slaughter Houses

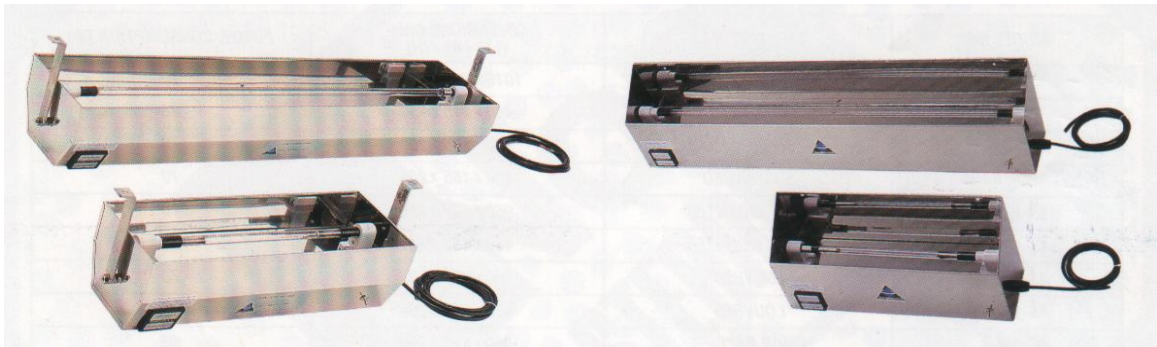
DOOR BARRIER MODEL AS-33DB

LOUVRED WALL MODEL AS-33LWM



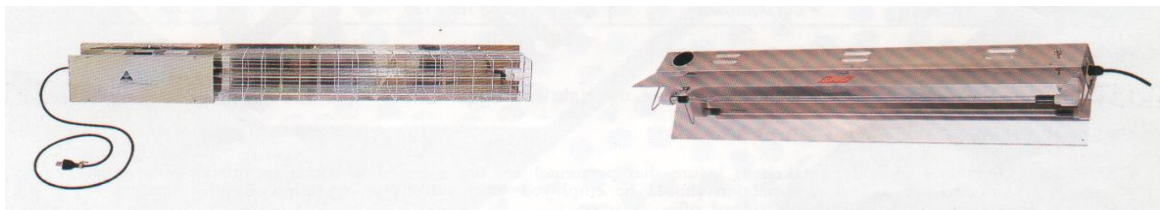
SUSPENDED INVERTIBLE MODEL ASCR-33/ASCR-18

WALL MODEL AS-332M/AS-18WM



COLD ROOM MODEL ASIM-30

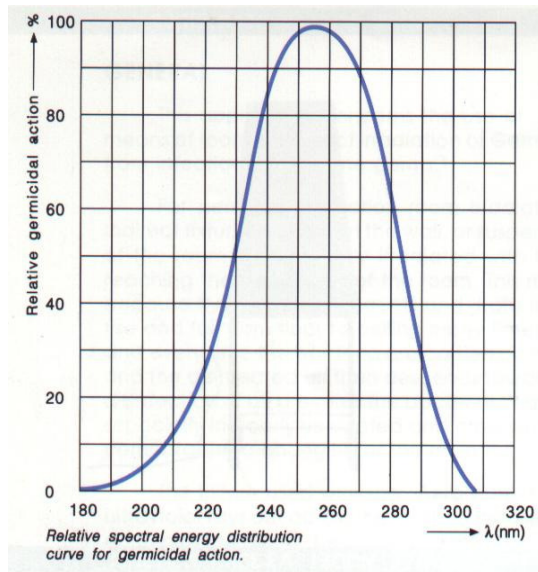
SUSPENDED MODEL ASR-33



SPECIAL CONVEYER STERILIZER

SPECIAL BOTTLE STERILIZER





This table below shows the exponential relationship between a dose of UV-254nm and the percentage of destruction. The doses for 99; 99.9 and 99.99 per cent destruction are 2.3 and 4 times the dose for 90 per cent destruction, respectively.

Organisms Destroyed (%)	Dose $\mu\text{Wsec} / \text{cm}^2$	Organisms Destroyed (%)	Dose $\mu\text{Wsec} / \text{cm}^2$
10	1.3 x 100	95	39 x 100
18	2.3 x 100	98	51 x 100
33	5.2 x 100	99	60 x 100
50	9.1 x 100	99.5	69 x 100
63	13.1 x 100	99.8	81 x 100
80	20.9 x 100	99.9	90 x 100
86	26.1 x 100	99.99	120 x 100
90	30.0 x 100		

### Standard Model Specification

Model No.	Type	Dimensions(mm) (L x W x H)	Power Consumption (W)
ASCR-33	Suspended Invertible	1010 x 215 x 225	70
ASCR-18	Suspended Invertible	460 x 215 x 150	70
ASR-33	Suspended	960 x 165 x 200	70
ASR-18	Suspended	460 x 165 x 200	70
AS-33MW	Wall Mounted	960 x 130 x 230	70
AS-18WM	Wall Mounted	460 x 130 x 230	70
AS-33LWM	Louvred	960 x 205 x 205	70
AS-18LWM	Louvred	460 x 205 x 205	70
AS-33DB	Door Barrier	960 x 155 x 205	95
AS18-DB	Door Barrier	460 x 155 x 205	70
ASIM-24	Cold Room	820 x 100 x 130	20
ASIM-30	Cold Room	1280 x 165 x 135	70

- Custom designed and manufactured units can be supplied to meet special requirements.
- Due to constant production improvement we reserve the right to change specification without notice

### CAUTION :

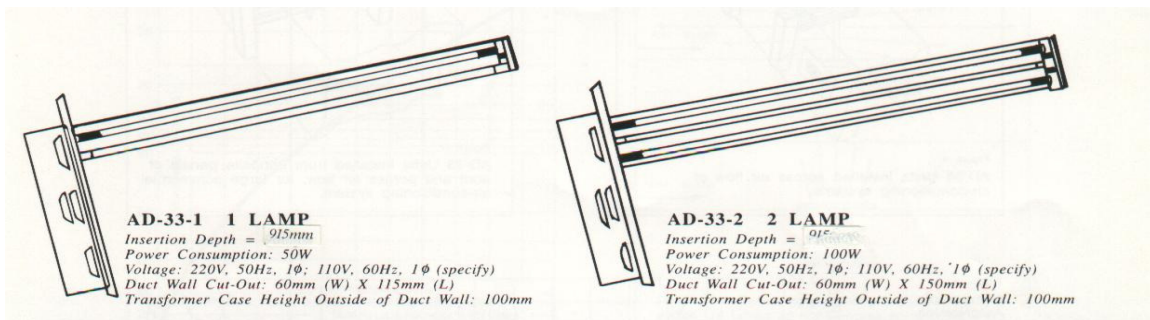
Great care should be taken to insure that personnel are not exposed to direct or reflected radiation. Suitable eye and skin protection should be employed when unit is in operation. Before cleaning or servicing, always turn the power off.

# AeroNomics®

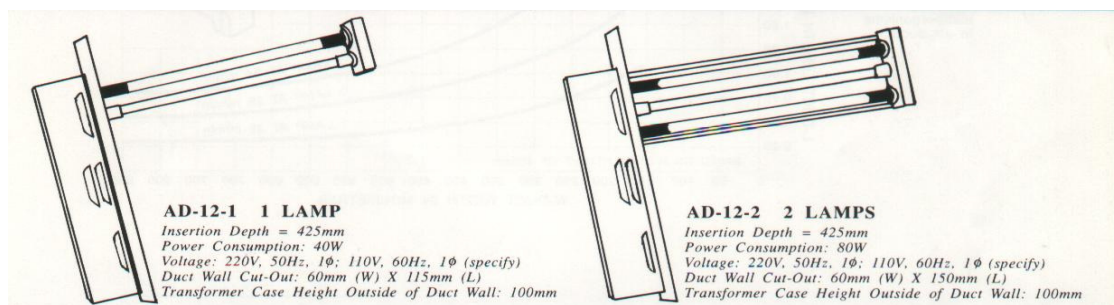
## AIR STERILIZER

LARGE AND SMALL DUCT  
COMMERCIAL/INDUSTRIAL/RESIDENTIAL

### AD-33



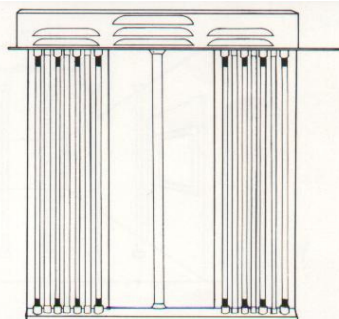
### AD-12



### CUSTOM DESIGN UNITS

#### CUSTOM DESIGN UNITS

Modular combinations of units can be designed and fabricated to meet special requirements of air ducts. An example of an 8 lamps grid formation: by combining two AD-33-4 into a compact unit with central-split-void is shown on the right; unlimited combinations are available upon special orders.



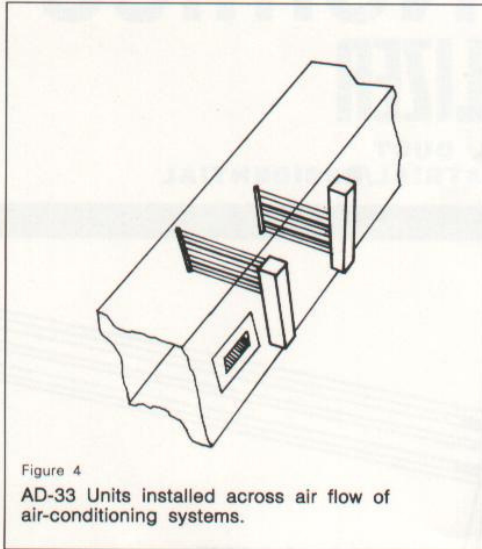


Figure 4  
AD-33 Units installed across air flow of air-conditioning systems.

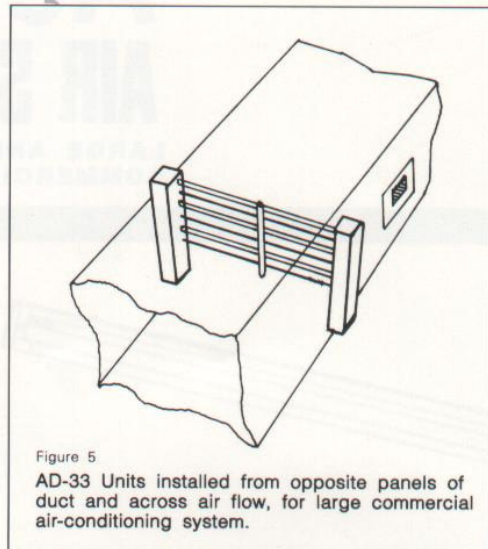
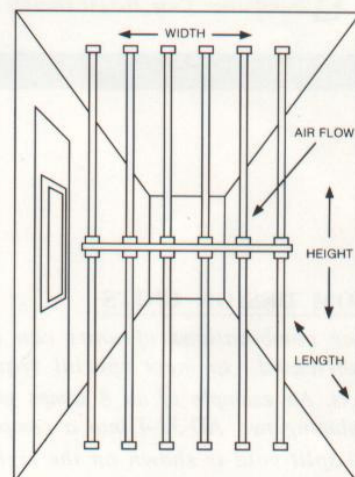
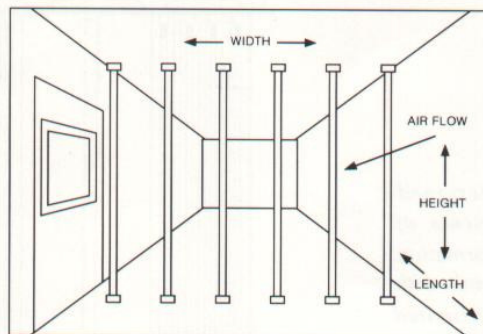


Figure 5  
AD-33 Units installed from opposite panels of duct and across air flow, for large commercial air-conditioning system.

Figure 6  
Number of AeroNomics MS14 U.V. lamps required for 80% kill of microorganisms in air ducts.



The most effective methods of installing the UV Sterilizers in air-conditioning systems for maximum germicidal effect. Please follow the guideline below.

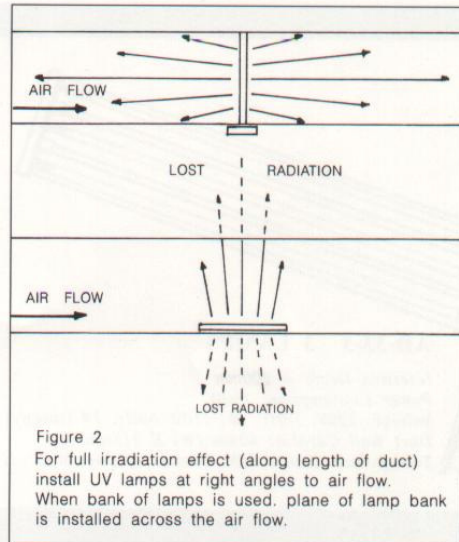
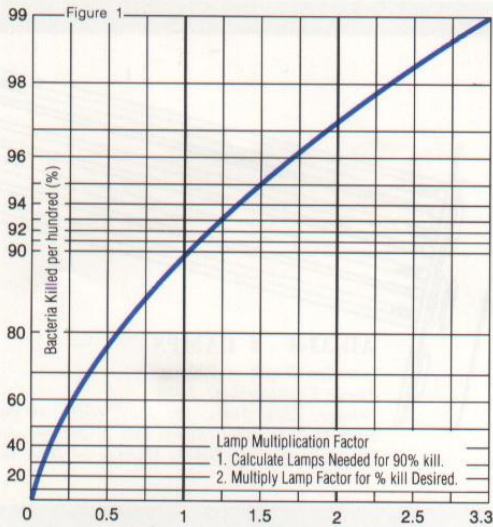
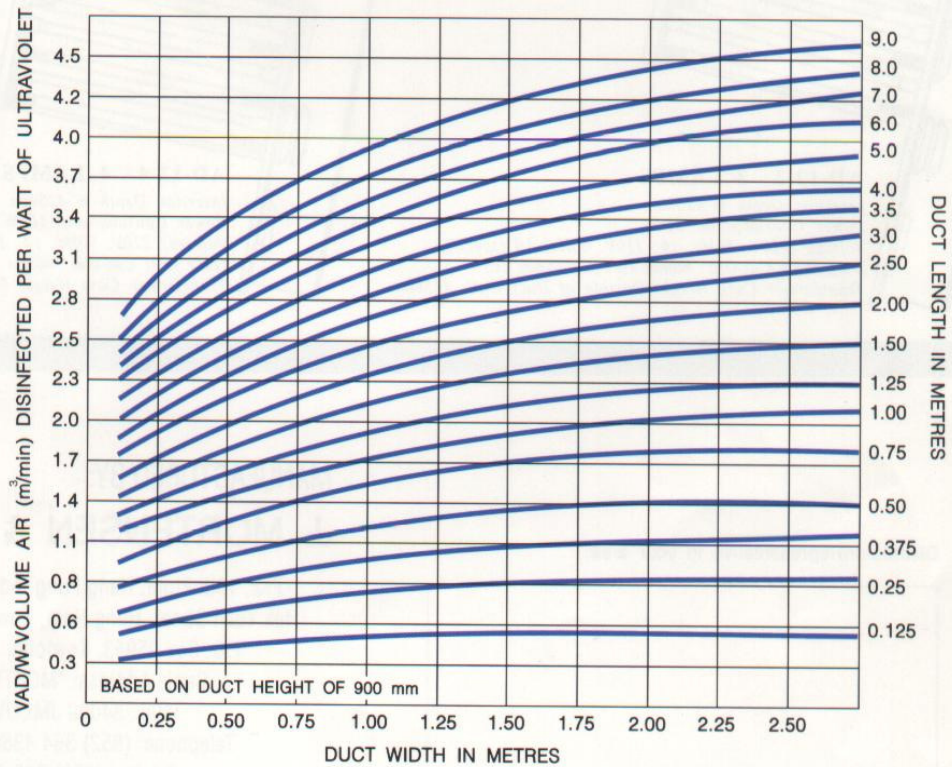


Figure 3  
 ULTRAVIOLET EFFECTIVENESS VS DUCT DIMENSIONS FOR 90 PER CENT KILL



## Specification of Standard Air Duct Model

<i>Model</i>	<i>Lamps</i>	<i>Ozone Output (g)</i>	<i>Power Consumption (W)</i>	<i>Insertion Depth (mm)</i>	<i>Duct Wall Cut-Out (W x L mm)</i>	<i>Transformer Case Thickness-(outside of Duct Wall (mm))</i>
AD-12-1	1	1.4	40	425	60 x 115	115
AD-12-2	2	2.8	80	425	60 x 150	115
AD-12-3	3	4.2	120	425	60 x 215	115
AD-12-4	4	5.6	160	425	60 x 265	115
AD-33-1	1	3.7	50	915	60 x 115	115
AD-33-2	2	7.4	100	915	60 x 150	115
AD-33-3	3	11.1	150	915	60 x 215	115
AD-33-4	4	14.8	200	915	60 x 265	115

- Larger and tailor-made units can be designed and fabricated to meet special requirements
- The actual ozone output of system is subject to operation conditions
- Due constant product improvement, we reserve the right to change specifications without notice

### **CAUTION :**

Great care should be taken to insure that personnel are not exposed to direct or reflected radiation. Suitable eye and skin protection should be employed when unit is in operation. Direct inhalation of ozone is harmful.