



HAMSAH STERILAIRE

PROTECTING YOUR ENVIRONMENT





## HAMSAH STERILAIRE

Air Sanitization units that ensure any indoor space is 99.99 % free of harmful pathogens & volatile organic compounds.

HAMSAH STERILAIRE by Beta, is an air purification and sanitization unit which converts any interior space into a sterile environment by eliminating 99.99% biological, chemical & physical contaminants that could be present in the air. This Sanitizer unit does not generate any ozone and is 100% safe for indoor use.

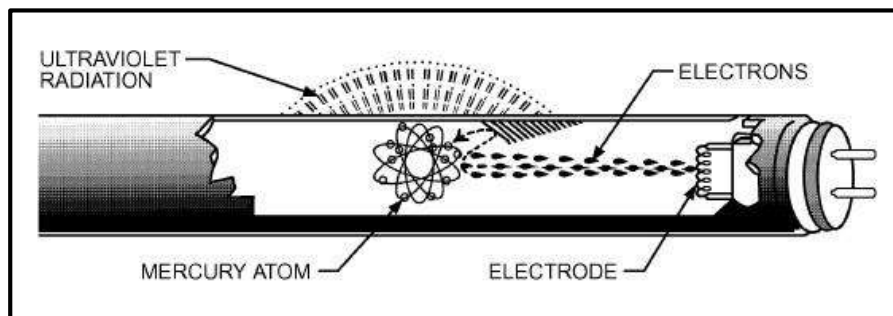
### PRINCIPLE OF WORKING:

Hamsah Sterilaire unit draws air from the surrounding space with the help of a centrifugal fan. The air is drawn through an aluminium mesh filter which filters out any dust or air bone sand particles which are greater than 300 microns in size. The filtered air is then exposed to a fluence of  $40\text{mJ}/\text{cm}^2$  by UV-C lamp emitting at a wavelength of 254nm. By this process the DNA and nucleoli of viruses, bacteria and other pathogens are deactivated/destroyed. Further the sanitized air is then passed through an **H-13 HEPA FILTER** which filters out any particle /organism which is above the size of 0.3 microns.

The Hepa filter within the unit remains continuously exposed to UV-C light which ensures that no pathogens or microorganism can breed within the Hepa filter itself.

### PRICIPLES OF UV-C

#### UV- C LIGHT

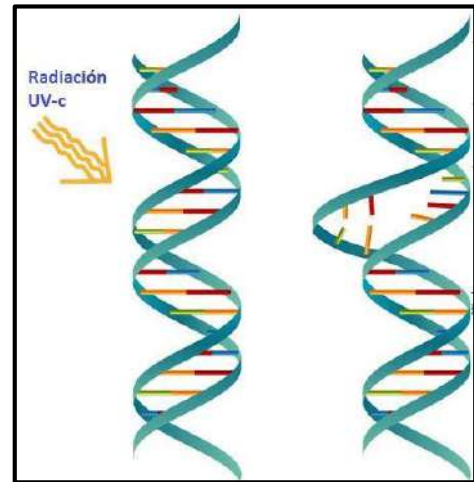
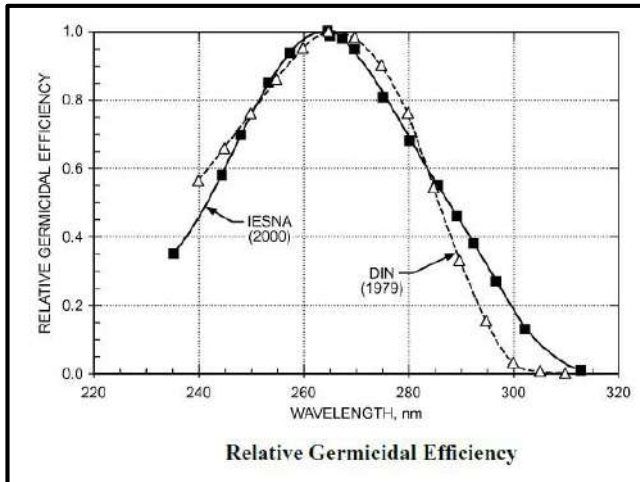


UV light is a proven technology when it comes to reducing bacteria, viruses and other harmful microorganisms that pose a risk to human health. Ultraviolet (UV-C) light kills or inactivates microorganisms by destroying nucleic acids and disrupting their DNA, leaving them unable to perform vital cellular functions.



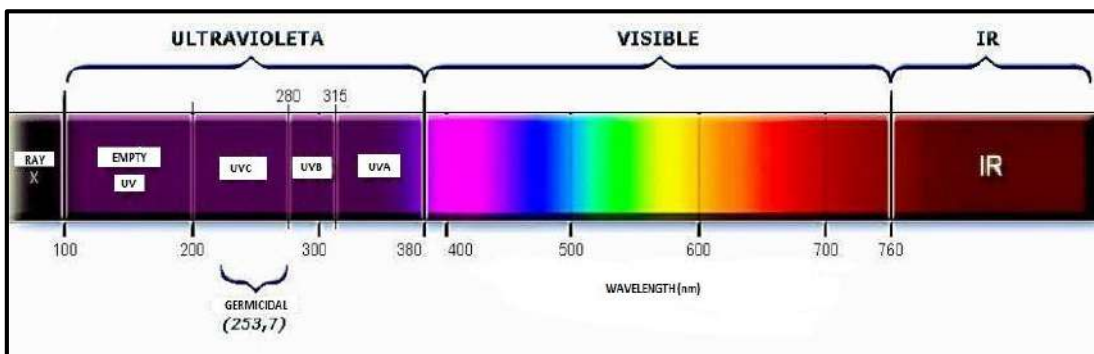


For many years, UV germicidal lamps have been used for disinfection of air and surfaces within hospitals, care homes, laboratories and many other organizations where hygiene and cleanliness are of utmost importance. In light of the current corona virus outbreak, UV is just one of the many technologies available and being utilized to help reduce and control the spread.



**UV-C lamps for purification**

The UV-C radiation generated by high-energy UV-C lamps moves at a wavelength range between 200 nanometers (nm) and 280 nanometers. This gives the radiation a cell-destroying effect that is ideal for highly effective purification of water, air and surfaces and eliminates the need for chemical products.



The UVC energy interrupts DNA from a wide range of microorganisms, making them harmless.

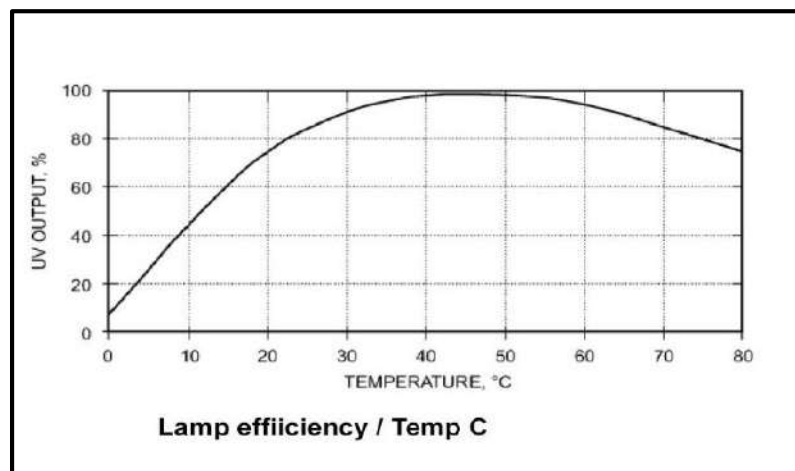




**UVC DOSAGE REQUIRED TO INACTIVATE PATHOGENS**

TYPE	NAME	INACTIVATION DOSE (mJ/cm <sup>2</sup> )	
		90 %	99%
BACTERIA	Legionella pneumophilla	3,1	5,0
	Salmonella enteritidis	5,0	7,0
	Salmonella typhimurium	3,0	11,5
	Shigella dysenteriae	0,5	2,0
	Shigella sonnei	3,2	4,9
	Vibrio cholerae	0,8	1,4
	Citrobacter diversus	5,0	7,0
	Mycobacterium tuberculosis	2,2	4,3
	Listeria monocytogenes	2,2	3,0
	PROTOZOA	Cryptosporidium parvum	< 2
Giardia lamblia		< 10	~10
Giardia muris		< 2	< 2
Ecephalitozoon intestinalis		3,0	5,0
VIRUS	Adenovirus 40	55,0	105,0
	Echovirus II	7,0	14,0
	Hepatitis A	5,1	13,7
	Poliovirus Tipo 1	5,7	11,0
	Ratovirus SA11	8,0	15,0

**GRAPH FOR LAMP EFFICIENCY VS TEMPERATURE**







**FEATURES OF HAMSAH STERILAIRE:**

- **CONSTRUCTION:**

The Hamsah Sterilaire unit is available in 2 different forms based on the type of installation.

**1) STAND-ALONE TYPE**

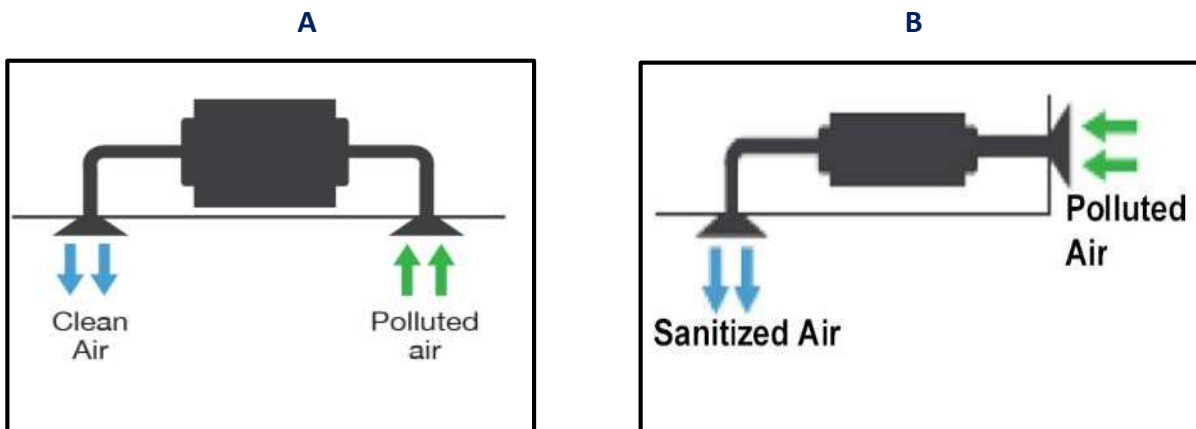
These type of units can be placed anywhere in an indoor space. Wheels are provided for easy mobility throughout the space.



**2) DUCTED TYPE**

These type of Units can be installed in between the ducts serving the purpose of air purification and sanitization.





- **CASING:**

Hamsah Sterilaire units are built using heavy duty powder coated galvanized steel and internally insulated with high density acoustic foam to ensure a quieter performance.

UV chamber is covered with reflective foil to ensure that the UV-C light beams are continuously reflected and refracted in the chamber. This gives a 360° panorama of UV-C waves and maximizing the radiated power of the lamp.

An air tight access door is present to facilitate self-maintenance i.e. change of Hepa filter, replacement of UV-C lamps which is required after using the product for one year.

Washable mesh filter is provided on one end to ensure that dust particles do not enter the Hamsah sterilaire unit. This mesh filter can be easily removed for cleaning.

- **FAN & MOTOR**

Each unit depending upon its capacity is equipped with a highly efficient fan having backward curved impeller. Fan motors are fitted with ball bearing for low noise emissions. Fan has IP44 protection and class II insulation.

- **FILTERS**

An H-13 Grade Hepa filter is provided in the Hamsah Sterilaire to ensure filtration of 99.99% of all particles, pathogens which are bigger than 0.3micron size.

**Filter media:** Hepa filters are manufactured from continuous length superior quality micro glass fiber paper media. The filter media is moisture resistant and fire retardant.

**Filter Frames:** The Hepa filter construction is made from extruded anodized aluminium profiles. The Hepa filters is provided with expanded metal mesh face guards on both sides.





**Sealant & Gaskets:** The Hepa filter media is encapsulated into the filter frame utilizing a two part high density fire retardant urethane elastomer. A flat profile neoprene gasket or a one-piece seamless urethane gasket is used to ensure a leak-free seal to the filter

• **PERFORMANCE DATA**

S.NO	MODEL	VOLTAGE (V)	FREQUENCY (HZ)	PHASE	AREA COVERAGE (M <sup>2</sup> )
1	S-UHF-300	230	50	1	40
2	S-UHF-600	230	50	1	90
3	S-HF-300	230	50	1	40
4	S-HF-600	230	50	1	90
5	S-UF-300	230	50	1	50
6	S-UF-300	230	50	1	115

NOTE: Units can be provided in any sizes based on client/site requirements.

**APPLICATIONS:**

The Hamsah Sterilarie is designed for use in any indoor space where air purification & sanitization is needed kind of indoor spaces such as

- Health sector
- Offices
- Hotels
- Homes
- Universities
- Colleges
- Malls
- Supermarkets
- Theaters
- Hospitals



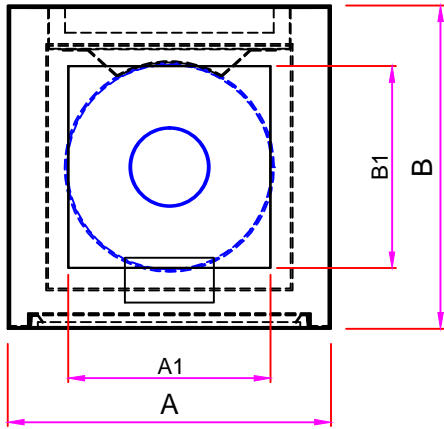






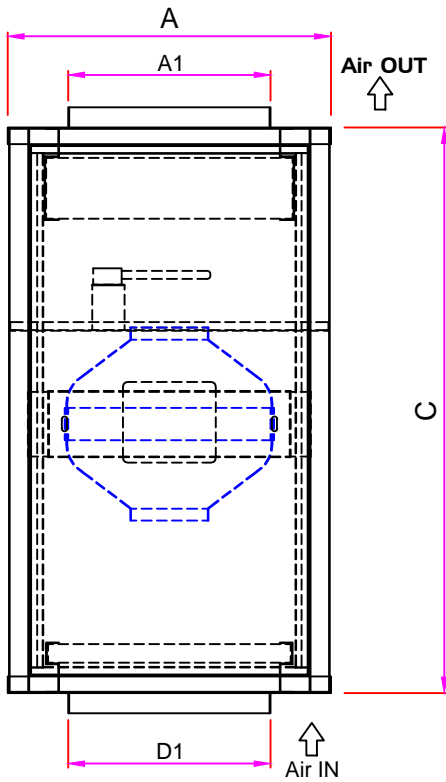
### STERILAIRE-DUCTED TYPE

Top View

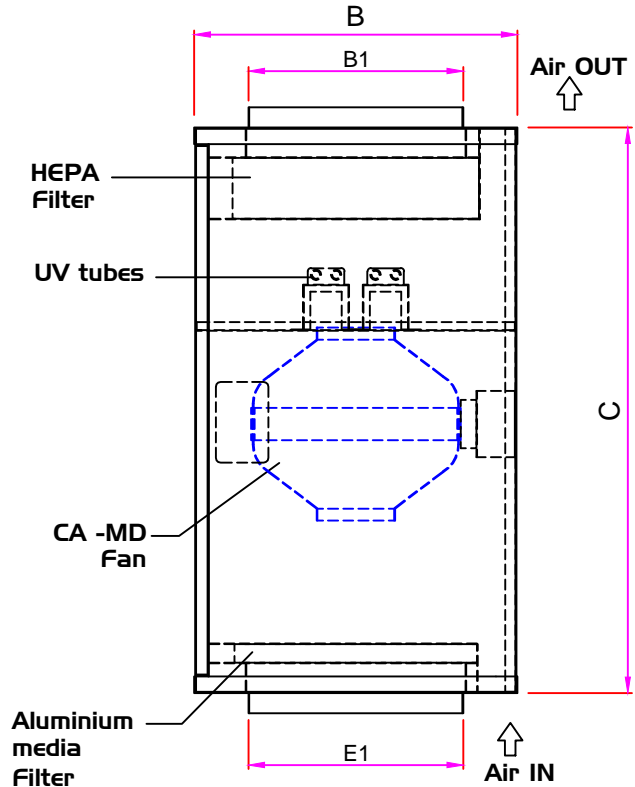


**NOTE:**

- 1.) The access door is made air tight.
- 2.) HEPA & washable Aluminium media Filter are both accessible inside.



Front View



Side View

**DIMENSIONS**

Model	A	B	C	A1	B1	D1	E1
S-UHF 300-D	300	300	700	250	250	250	250
S-UHF 600-D	600	600	700	550	550	550	550
S-HF 300-D	300	300	700	250	250	250	250
S-HF 600-D	600	600	700	550	550	550	550
S-UF 300-D	300	300	600	250	250	250	250
S-UF 600-D	600	600	600	550	550	550	550
S-U 300-D	300	300	300	250	250	250	250
S-U 600-D	600	600	300	550	550	550	550

**LEGEND:**

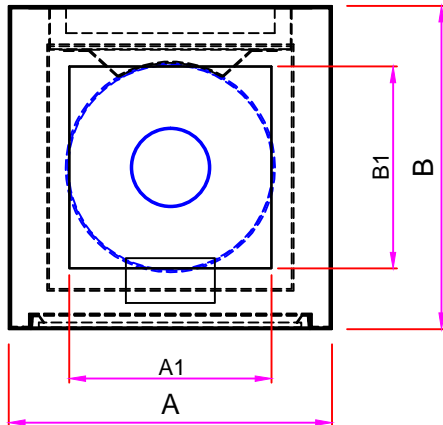
- U = Ultra Violet Lights
- H = HEPA Filter
- F = Fan





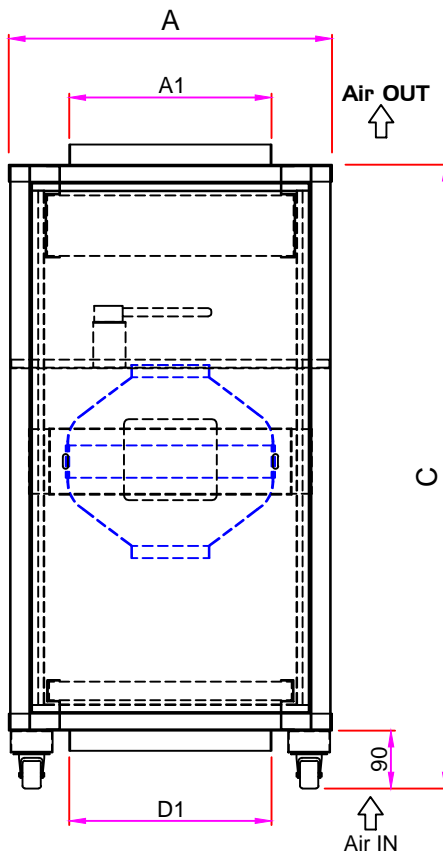
## STERILAIRE-STAND ALONE TYPE

Top View

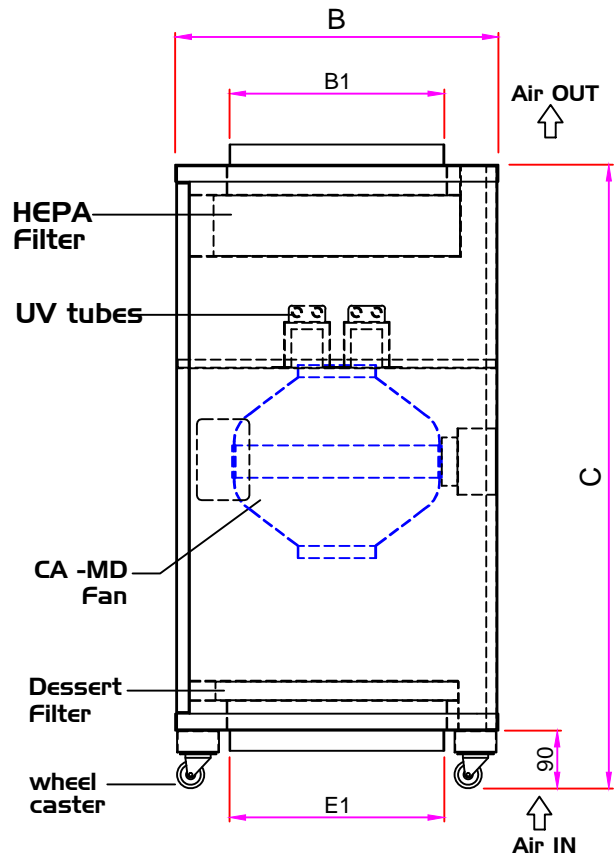


**NOTE:**

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Front View



Side View

**DIMENSIONS**

Model	A	B	C	A1	B1	D1	E1
S-UHF 300-S	300	300	790	250	250	250	250
S-UHF 600-S	600	600	790	550	550	550	550
S-HF 300-S	300	300	790	250	250	250	250
S-HF 600-S	600	600	790	550	550	550	550
S-UF 300-S	300	300	690	250	250	250	250
S-UF 600-S	600	600	690	550	550	550	550
S-U 300-S	300	300	390	250	250	250	250
S-U 600-S	600	600	390	550	550	550	550

**LEGEND:**

- U = Ultra Violet Lights
- H = HEPA Filter
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