

TEKNOMAR®



UVION AIR ASEPTIZER

**Compact Type Positive-Negative Pressure
Hygienic Particle Reduction and Air Conditioning Device**

UVION

AIR ASEPTIZER

It's a high-level microbiological protection, particle & contamination reduction device. Controls stand-alone the pressure, humidity, heat, and particle level of the environment in which is located. The same device has the ability to provide POSITIVE and NEGATIVE pressure with a single button, and provides bio and particulate decontamination.

Has 4 different models (**CW1350, CW1000, CW650, CW650 IO**) and its fresh air intake, blowing, climate and humidification features vary according to the models and optional options.

Uvion Air is used in all hospital units such as the operating room, intensive care unit, isolation room, patient rooms and also used in clean rooms, production facilities and warehouses to purify and sterilize the air environment from particles.

By using Uvion system in operating rooms, intensive care and reanimation units, hospital infections (**MRSA, VRSA**) caused by contamination are prevented as well as shortening the hospitalization period.

Unlike central systems, application areas can be controlled independently of each other. Thus, the risk of possible inter-unit contamination is minimized with the use of aseptizers.

Devices can be installed quickly, without the need for construction and duct systems. They can be easily moved and installed in another unit during architectural changes within the institution. Thus, they offer an advantageous and economical solution, especially for hospitals. Uvion Air Series can be used easily in areas with low ceiling height.



Working Principle

The air taken from the indoor and outdoor environment is first passed through the pre-filters. By making the air-conditioning at the desired value; After being sterilized with UV-C, **atmospheric plasma generator, and pathogen ionizer (Uvion Module)**, it is passed through high-efficiency HEPA/ULPA filters by keeping particles and given to the environment by providing air humidity balance.

The Pathogen Ionizer prevents the spread of Avian Flu, Swine Flu, SARS, Ebola, Covid-19, and all other airborne viruses, microorganisms and pathogens with altered genomes.



UVION Module & Atmospheric Plasma



The module contains an atmospheric plasma generator that can operate as a stand-alone complete environment sterilization system, thus creating Atmospheric Plasma. Atmospheric Plasma generator consists of titanium dioxide (TiO₂), silver iodide (AgI), copper sulphate (CuS) coated borosilicate, cylindrical knotted glass tube and HV unit (5Kv).

This mechanism breaks down bacteria, viruses, fungi, molds, spores, and ethylene-based gases and particles in the environment into -OHs (hydroxyl attachments) thanks to its catalytic inverter; enabling the decomposition of narcotics and other gases, deactivating micro-organisms by disrupting their DNA structures, and the destructing of particles with negative (-) ions. It neutralizes airborne pathogens and gases by creating a photocatalytic reaction.

Ethylene agents in the environment are destroyed by the mixture of negative ions, ultraviolet (UV 254nm) light and bio-active hydroxyl radicals. This module which sterilizes the air, ensures that unwanted radicals are ionized with the other light source inside (efficacy 400-700nm). The system passes the recirculated air and the fresh air taken from outside through the UVION module and gives it to the environment. Decontaminates the area it is in.



Negative Ion

The negative ions created by the device are made of oxidized oxygen atoms. This is an event that happens in nature. In nature, ions are formed due to sunlight, radiation and air movements. Negative ion molecules with extra electrons have positive effects on the environment.

They contribute to clean air by neutralizing ethylene agents and odour in the environment. At the same time, they provide a sterile atmosphere by cleaning the air from all kinds of microbiological bacteria, viruses, molds, fungi, pollen and especially ethylene agents that have a rotting effect in the environment. They eliminate ambient, hospital and operating room odours. The more negative ions there are in the environment, the less the number of particles circulating in the air, that is, the less pollution will be.



High efficacy in the destruction of microorganisms and pathogenic agents in the air with the formation of Negative Ion and Atmospheric Plasma.



HEAT CONTROL

Heating – cooling spec that can be adjusted between 16-30 °C



MOISTURE CONTROL

Relative humidity control between 30% - 90% Rh with external ultrasonic nebulizer (Optional)



AIRSPED FLOW CONTROL

The device is air volume flow controlled. And airspeed flow can be adjusted gradually with frequency control according to the ambient capacity and user request.

The device has a speed compensation system that adjusts the air-flow rate according to the filter clogging level. In order to maintain the flow rate determined in the system with its programs and sensors, automatically increases or decreases the engine speed during operation without the need for user intervention.

Values vary according to models.



VISUAL CONTROL AND SCREEN

Values can be set by the user on the colored, graphic touch screen, and the environment variables can be observed. (environment function type (positive/negative), airspeed, heat and humidity values, etc.)

Allows seeing the heat(°C), humidity(%Rh), air-flow speed(m/s), flow rate (m³/h), Uvion module efficacy, filters condition, UV lamps life, alarms, error codes and set values on the screen (with real-time values) while the device is running.

Gives an audible, and visual warning in case of any alarm.



NEGATIVE & POSITIVE PRESSURE CONTROL

Uvion Air Aseptizer can transform the environment from positive pressure to negative, from negative pressure to positive instantly with a single button, without the need for module replacement or additions.

PARTICULATE & BIO DECONTAMINATION



Bio Decontamination

UVION module technology; 96% ≤ biodecontamination within the first hour with negative ion and atmospheric plasma effect (non-filterable resistant long ethylene agents, all kinds of microorganisms, viruses, influenza, RSV pathogens, mold, fungus, etc.)



Particulate Decontamination (Particle Control)

The feature of cleaning the air taken and expelled from the outside environment with pre-filter and waste filter application

-Fresh air-suction filter EU4/EU7/EU9

-Carbon filter & Ambient air-suction filter G4 Carbon Filter

HEPA H14 filter, (99.998% retention at 0.3-0.5 micrometer particle size) suitable for DOP, leak-proof, filter safety with HEPA Plenum Box,

96% ≤ particulate decontamination at the level of 0.3 μm within the first hour with 2 pieces 15W UVC 254 nm germicidal lamps

USAGE FEATURES

The system can operate in 5 different modes;



Positive Pressure Mode (P):

(Depending on the models, 900 m³/h & 3500 m³/h at 3 different levels)

The air is taken from the indoor and outdoor environment is cleaned in the Uvion Air Aseptizer with different modes and given to the environment as positive pressure (10-30Pa) particle-free and conditioned sterile air. Positive pressure application areas: where sterile environment is required such as operating rooms, reanimation units, intensive care units, warehouses, patient rooms with low immune system, clean rooms etc.



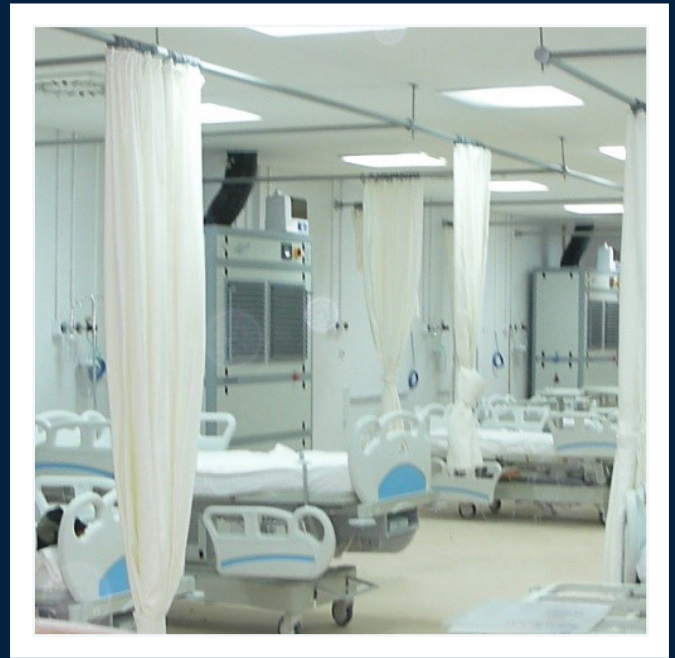
Negative Pressure Mode (N):

While the polluted air, all of which is taken from the indoor environment, is processed in Uvion Air, fresh air is given to the environment, the processed fresh air is also given to the outside environment and the environment is kept under negative pressure (-10, -20Pa). In units with a risk of contamination and contagious disease, the device empties the contaminated air in the environment very quickly, prevents possible spread, and provides clean air entry to the area. Negative pressure application areas: Operating rooms, all care units, all laboratories where infectious diseases are studied (tuberculosis, SARS, Covid-19, etc.), isolation rooms, etc.



Auto Mode:

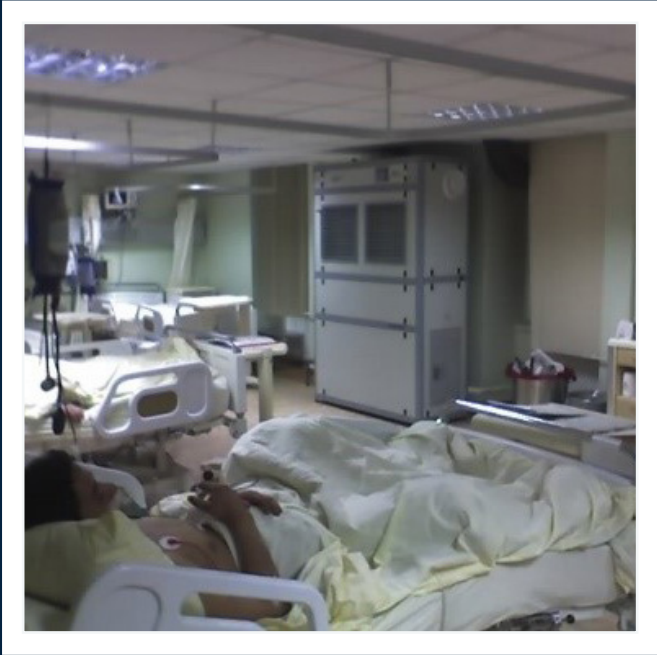
Makes the environment clean and sterile area without the need for user intervention at the set value when in the positive pressure mode. This mode is suitable for all environments that require sterile field.



MODELS	CW1350	CW1000	CW650	CW650 iO
EXTERIOR DIMENSIONS (W D H) (mm)	1390x560x2250	1085x560x2250	780x560x2250	
WORKING MODE	NEGATIVE/ POSITIVE		POSITIVE	NEGATIVE
PROGRAMS	3 Positive, 1 Negative Total 5 Programs		3 Positive, 1 Auto Total 4 Programs	3 Negative, 1 Auto Total 4 Programs
HEATING AND COOLING CAPACITY (Btu)	24000		10000	
EXTERNAL HEATING CAPACITY (kW)	2.2		1.3	
AIR CONDITIONING POWER CONSUMPTION (Kw)	5.2		2.7	
FILTRATION POWER CONSUMPTION (Kw)	0.5			
H14 MAIN FILTER SIZE (mm)	1220 x 610 x 78	915 x 610 x 78	610 x 610 78	
DIFFUSER SIZE (W-H) (cm)	54 x 54 2 UNIT		54 x 54 1 UNIT	
FRESH AIR INTRODUCTION CAPACITY (m ³ / h)	700	600	400	(-) 600
INTERNAL AIR CAPACITY	1900	1500	1100	1000
TOTAL AIR CHANGE CAPACITY (m ³ / h)	2500	2000	1200	1200
ACTIVITY AREA At CLASS 10,000 (m ³)	130	110	80	80
ACTIVITY AREA At CLASS 100.000 (m ³)	170	150	110	110
SOUND VOLUME (at 1m)	55 dB			

MAINTENANCE PERIOD AND KIT

MAIN FILTER HEPA 14 (1 PIECE)	1 Time In 6 Months
AMBIENT AIR G4 CARBON FILTER (2 PIECE)	1 Time In 6 Months
FRESH AIR CARBON FILTER (1 PIECE)	1 Time In 6 Months
UV LAMP (2 PIECE)	1 Time In 6 Months
UVION PATHOGEN IONIZER UNIT (1 SET)	1 Time In 1 Year
SOFTWARE VALIDATION	1 Time In 1 Year



USAGE AREAS

- **Isolation Rooms,**
- Operating rooms,
- Intensive care areas (new-born, child, adult),
- Emergency services,
- Patient rooms, reanimation rooms,
- Burn treatment units, emergency units, dialysis units, blood bank units,
- Contamination (tuberculosis, etc.) laboratories, nano technology laboratories,
- Production facilities (food, medicine, medical equipment),
- Clean rooms etc.

Produced as an alternative to the central system wherever high hygiene and air conditioning are required.

Due to its compact structure, it does not require construction. No project, construction, or renovation requirement. The system is established without stopping the services of the intensive care unit.

CW650 IO

The fastest/practical **isolation room** installation for the emergency rooms.

The air-conditioning, humidity and filtration tests of our asepticizer device were carried out by the Republic of Turkey Ministry of Health Turkish Public Health Institution Microbiology Reference Laboratories Presidency, in order to create an area in Class 10.000 standard, and it was APPROVED with the number 80962070.

Air Sterilization System

For your Intensive Cares, Isolation Rooms, Operating Rooms, Clean Rooms and Production Areas;

- ✓ Particle Filtration
- ✓ Air Disinfection
- ✓ Air Conditioning Solutions
- ✓ Positive and Negative Pressure Areas



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Group

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9001:2015



13485:2016



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for your health

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