

Introduction to core technology

rotoair® AC150-F

2022 REDDOT DESIGN AWARD ENTRIES





Panel Visual Design

25° (The most comfortable viewing angle)

How tired is our cervical spine?

Cervical spine stress list

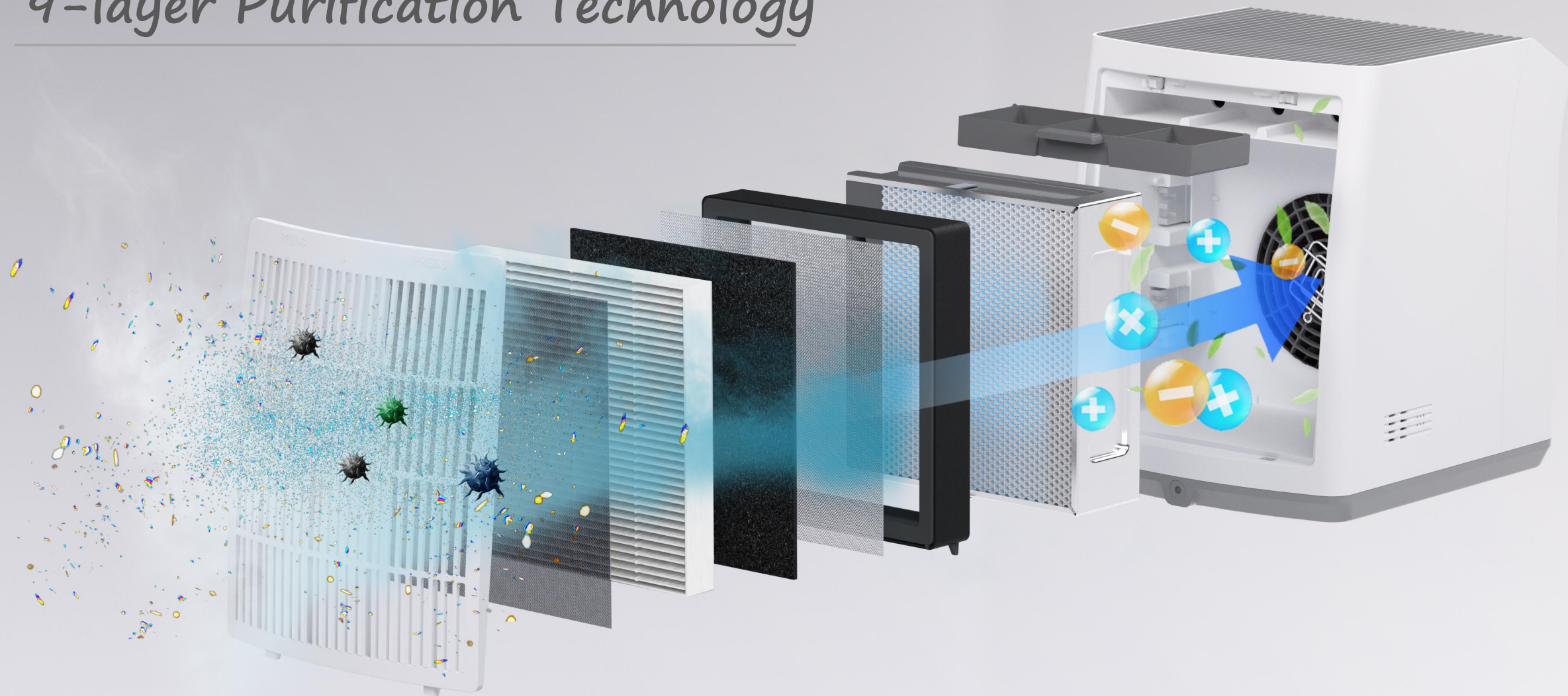
- When the body is upright, the head of an adult generally weighs about 5 kg;
- When watching a computer or TV, the head is lowered at an angle of about 15 degrees, and the pressure on the cervical disc increases to 12 kg;
- When working at a desk, bow your head at an angle of about 30 degrees, and the cervical intervertebral disc bears 18 kilograms of pressure;
- When looking at the mobile phone, the head is lowered at an angle of about 60 degrees, and the pressure on the cervical intervertebral disc is 27 kg, which is equivalent to carrying the weight of a bag of rice;

Family Series

Think of product line extensions as a low-cost and low-risk way to meet the needs of different segments of consumers, and, by using more sophisticated, low-cost market research, they can differentiate and Target a finer segmented consumer group.



9-layer Purification Technology



1

Pre-Filter

2

HEPA H13

3

Activated
Carbon Cotton

4

Silver Ion

5

Photocatalytic
Oxidation (PCO)

6

UV-C

7

Positive &
negative ions

8

RF ion

9

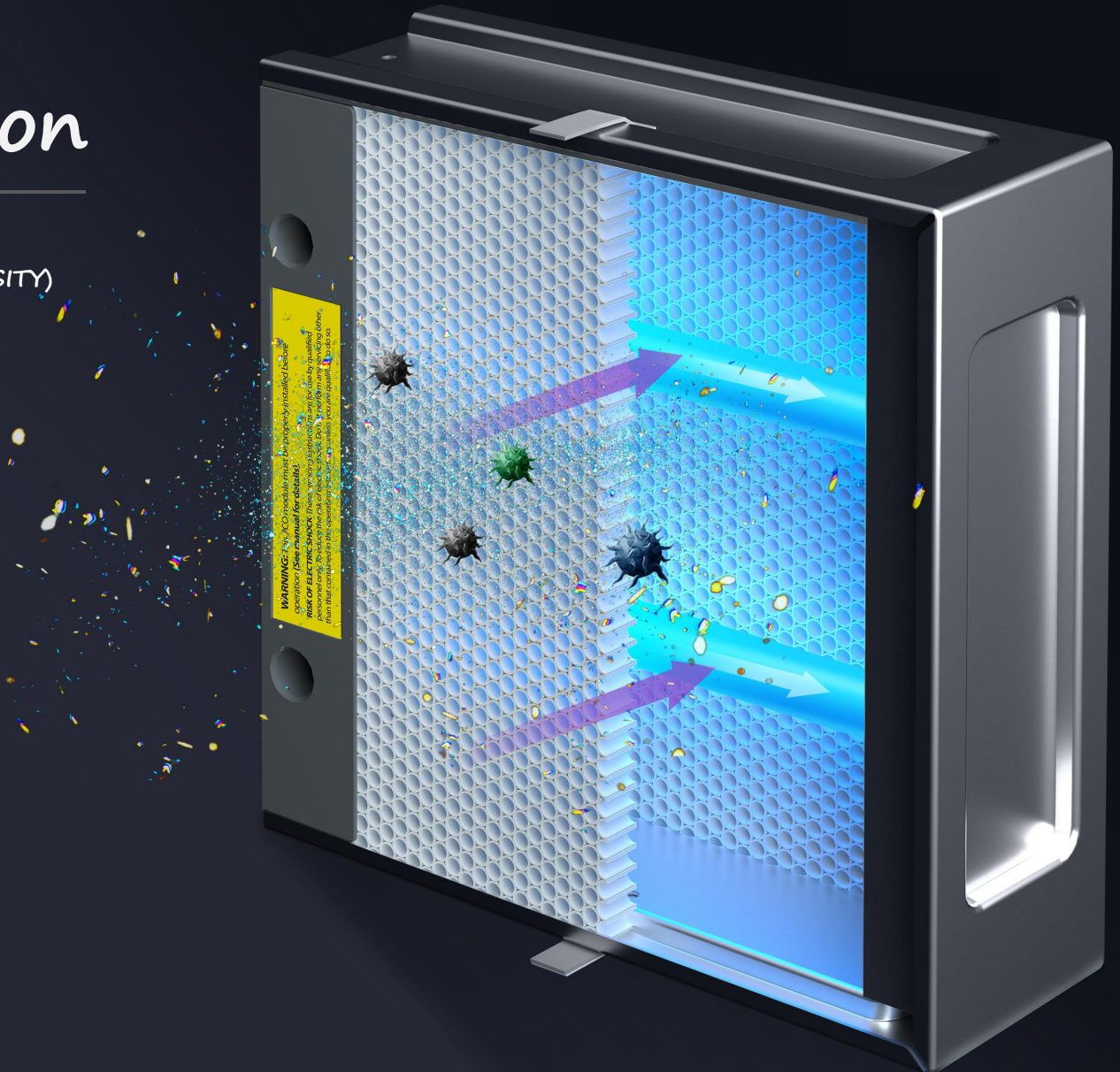
Natural aroma

Photocatalytic Oxidation

33.6 $\mu\text{W}/\text{cm}^2$ (UV IRRADIATION INTENSITY)

PCO sterilization technology is a general term for photo-semiconductor materials with photocatalysis (UVC) function based on nano-scale titanium dioxide (TiO₂). Nano-sized titanium dioxide is coated on the surface of honeycomb, under the action of ultraviolet light, it will produce a photocatalytic reaction similar to photosynthesis.

- It produces free hydroxyl groups and active oxygen with strong oxidizing ability, and has a strong photo-redox function;
- Oxidative decomposition of TVOC and other organic volatiles, and decomposition of organic pollutants into pollution-free water, carbon dioxide and other harmless substances;
- It can effectively kill a variety of bacteria, and can decompose and harmlessly treat the toxins released by bacteria or fungi;
- PCO sterilization technology has strong functions such as sterilization, deodorization, mold prevention, and air purification.
- Air volume 135CFM, larger PCO and larger air input.





UV Leakage Intensity

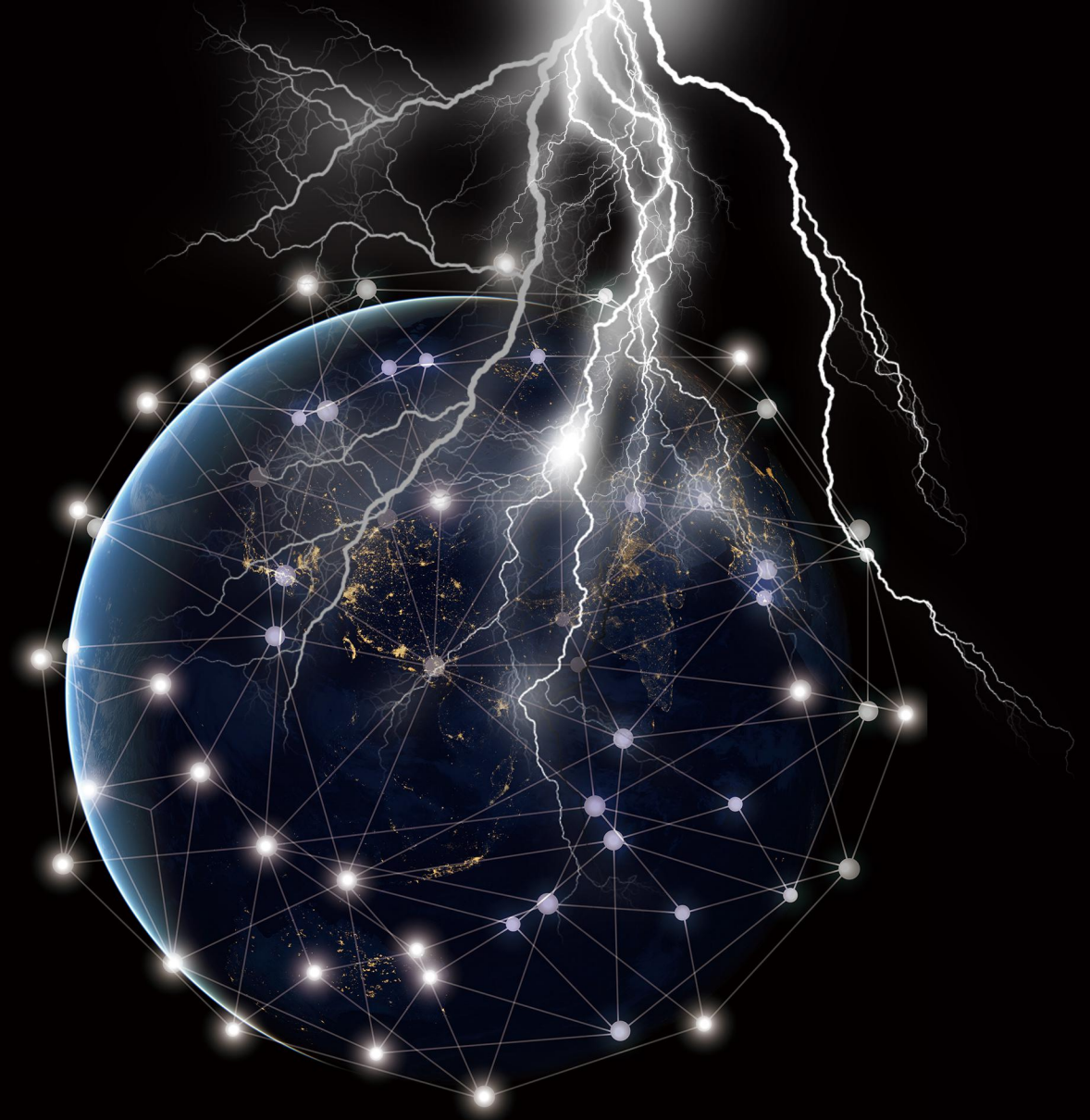
0 $\mu\text{W}/\text{cm}^2$ (30cm around the device)

This product complies with the maximum allowable concentration of ozone of 0.050 parts per million by volume (ppmv) in a 24-hour period. The Health Canada Guideline 2010 recommends that the maximum exposure limit, based on an averaging time of 8 hours, is 0.020 ppmv or less when tested in a sealed, controlled room approximately 30 m³.

Ozone Concentration

0.014 ppm (30m³ experimental space)

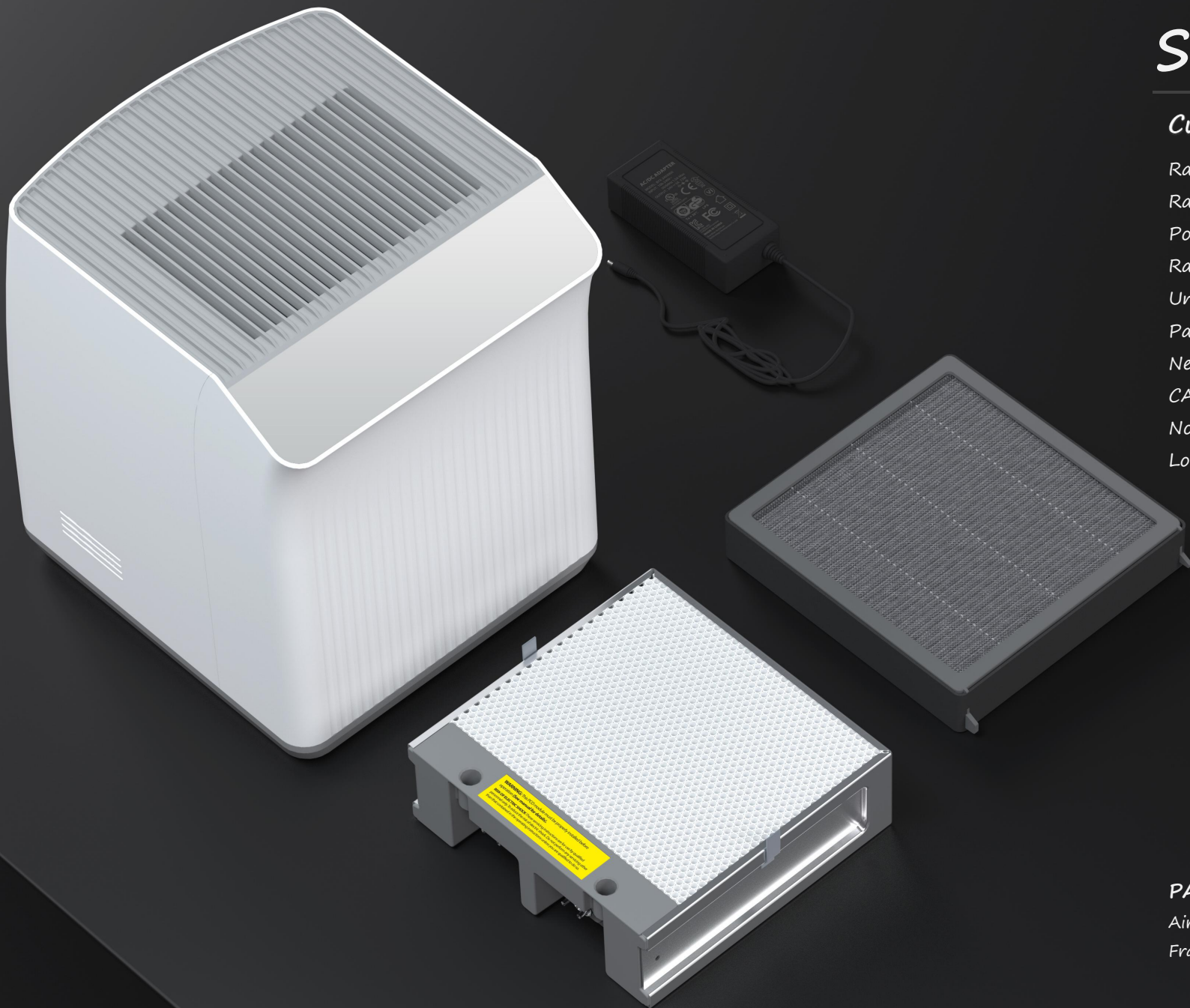
The perceived concentration of ozone is only 0.02~0.04ppm. At about 0.02ppm, the air will feel very fresh. The refreshing feeling in the air after a thunderstorm is due to the large amount of ozone and negative ions produced by lightning. Some scientists have concluded that if there is no ozone in nature, human beings will suffer many additional disasters, so the evaluation of ozone is "a god-sent purifier".



A circular air filter with a grid pattern. A metal paperclip is clipped to the center of the filter. Overlaid on the paperclip and filter are several icons: a blue arrow pointing right, several orange circles with minus signs, and several blue circles with plus signs. Small green leaves are also scattered around the icons.

RF Radiotechnique

Antenna design and radio frequency layout are key components in a wireless system, which is responsible for sending and receiving electromagnetic radiation from the air. An antenna generally refers to a conductor exposed in space, and the length of the conductor is a specific ratio or integer multiple of the signal wavelength λ . In AIRGUARD equipment, the main function of the antenna is to expand the sending area of positive and negative ions, and actively capture bacteria in the air to achieve a more effective killing effect.



Specification AC150-F

Current Product 10"

Rated Voltage	100-240V~
Rated Frequency	50/60 Hz External Power Supply
Power Adapter	DC24V 2.75A
Rated Power	53W
Unit Size	25x25.5x30.3cm (9.8"x10"x11.9")
Packing Size	36.5x33x46.5cm (14.3"x13"x18.2")
Net Weight	3.94kg (8.67pounds)
CADR PM	230m ³ /h (135ft ³ /min)
Noise SPL	46dB
Loading Qty	555 / 20'FT, 1135 / 40'HQ

PACKING LIST

Air Purifier*1 / PCO Purification Module*1 / Composite Filter*1 /
Fragrance Box*1 / Power Adapter*1 / Power Cord*1/