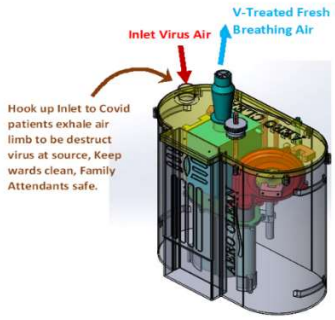
CSIR-CSIO

V-TREAT
Breathing Air Purifier – Backpack Type

ideamines
Yogah Karmasu Kaushalam !

Co-Developed by CSIR-CSIO & IDEAMINES



Device has UVC 254 lamps, Photocatalytic filters, and HEPA 13 filters, designed to provide enough dosing to kill 99.9% of the virus in fraction of a second, and enable positive pressure positive flows which provides comfortable breathing for medics, Air staffs, and body checker Security guards, coming in close vicinity to Public. Device can be worn with N-95 or ordinary Oxygen mask. The UVC dosing and performance of device is certified from three CSIR labs in India.

FEATURES AND SPECIFICATIONS:

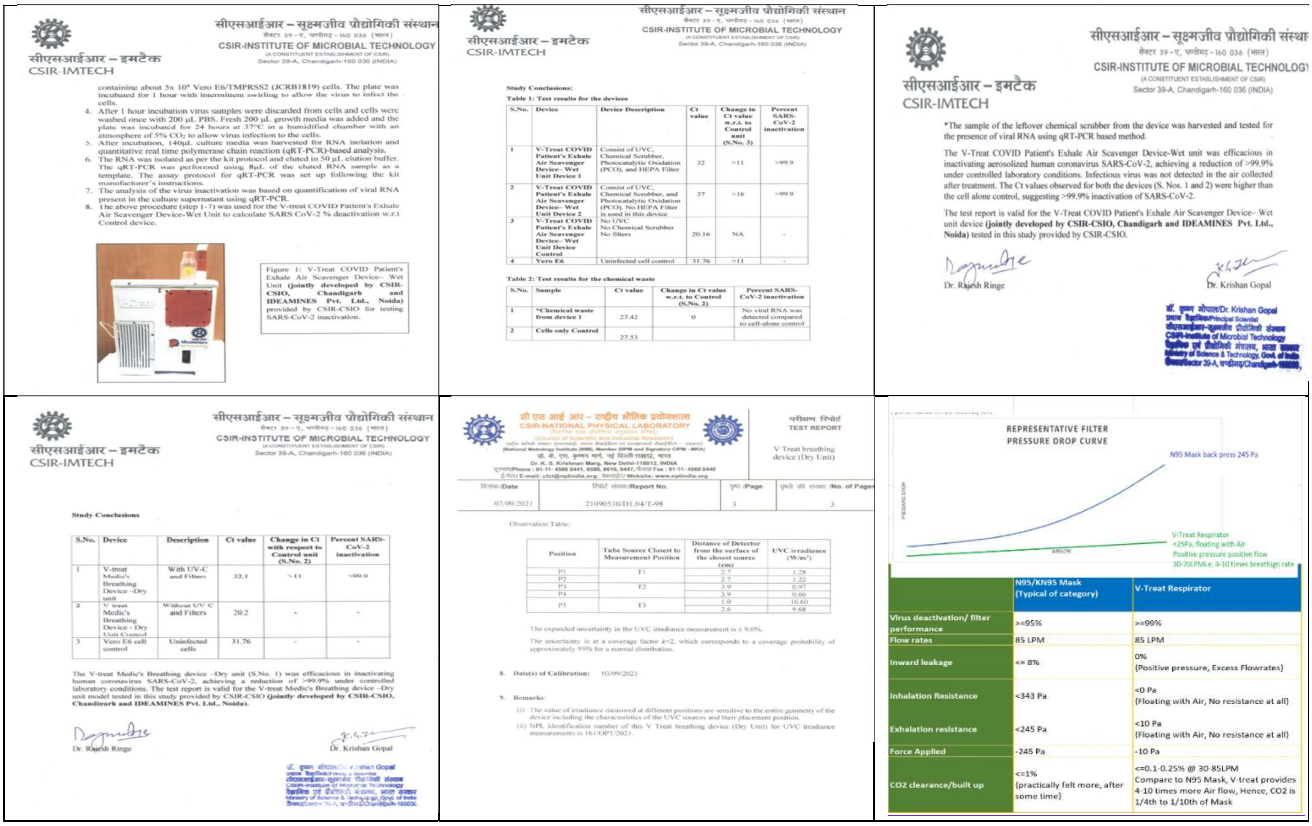
1. Three-stage Virus inactivation mechanism : UVC254, Photo-Catalytic and HEPA13 filters.
2. Flows: 25-75 LPM, average 50 LPM, which is 7 times more than Normal breathing air.
3. Positive pressure of just 2-3 mmWC, same as Ceiling fans
4. 2.0-liter Wearable Breathing Device, 8" X 6" X 5" backpack type
5. Weighs just 1.65 kg, 1/3rd of school bag
6. Also used as Covid patients, exhale air scavenging, inactivates virus at source, keep wards clean
7. Noise and Vibration free
8. Supplied with 20,000 mAh, Powerbank, runs 6-8 hrs

CERTIFICATIONS:

a. Virucidal inactivation certificate from CSIR IMTEC
b. UVC dosing certified from CSIR-CSIO
c. UVC dosing certified from CSIR-CSIO
d. CDESCO, CE certification and ISO -Ongoing

MANY FIRSTS-IN-WORLD

- First Virus inactivating device in world (not just filtering)
- First BA set with 3-stage disinfection UVC, PCO, and HEPA, most reliable.
- First Device that scavenges virus at source, from covid patients' exhale air.
- First wearable device for Air travelers, medical staffs & Security body checkers



FAQ's

1. Is HEPA based purifiers Good?	NO. HEPA 13 only filters 0.3 micron and above aerosols, inside which 0.07 micron virus can survive for days, with HVAC or purifier flows, the aerosols dries up and as soon as aerosol size is less than 0.3 micron, it slips though HEPA with live virus into human space, and via breathing root infects victims.
2. Is Bigger the cough sputum greater the problem?	NO. Bigger the cough sputum, it falls and settles fast, and mopped using sanitizer. The most dangerous is 0.1 to 5 micron aerosols, that can stay in air for hours and days, transmitting infection.
3. Is higher the flow and bigger the device and faster the inactivation better?	NO. It is the precise dosing, and residence time that matters. The small wattage of UVC lamps, and higher flows to claim faster coverage say in 5 minutes 12'X12' room inactivated, is misleading. Secondly, the flows in rooms need to be made circular using spreaders. V-treat HVAC in-duct and standalone air purifiers comes with customized spreader. Consumer must calculate /ask dosing rates and residence time in device for proper inactivation
4. Is bigger the lamp, and larger the wattage better?	NO. Optical luminosity decreases at reverse square law, the lamp and distance need to be optimized to provide better intensity in the moving spaces for air for proper virus inactivation, a Big lamp at corner of room is no better than several smaller lamps spread uniformly and consuming less wattage.
5. Is vaccine, better than V-treat device?	V-treat is not an alternative for vaccine, but vaccine will be ineffective as it is designed for few strands which are mutating fast. While v-treat emits UVC-254 nM wavelengths that can break most virus /RNA bonds, and inactivates, so it is more reliable for broad spectrum of virus and Bacteira, and much recommended for OPD doctors, and confined spaces with high human densities like air crafts, busses, trains, banks and such public places
6. Is N95, better than V-treat device?	No. N95 causes humidity, CO2 and back pressure built up and discomfortable to use for prolonged periods. People subconsciously create leakage path and breath inward contaminated air leaks, becoming sick. V-treat pushes clean treated air constantly and maintains 8 times more positive air flow for outward leakage, flushed out exhale air CO2, and humidity, and provides enough back pressure to breath, and hence more comfortable than N-95. However, N-95 is easy to use, while V-treat has to be back strapped like school bag while travelling, but it is 1/3rd the weight of school bags.