



Well Safe HVAC Air Refinement

HVAC Air Quality Control Post COVID 19



MODES OF TRANSMISSION OF THE COVID 19 VIRUS



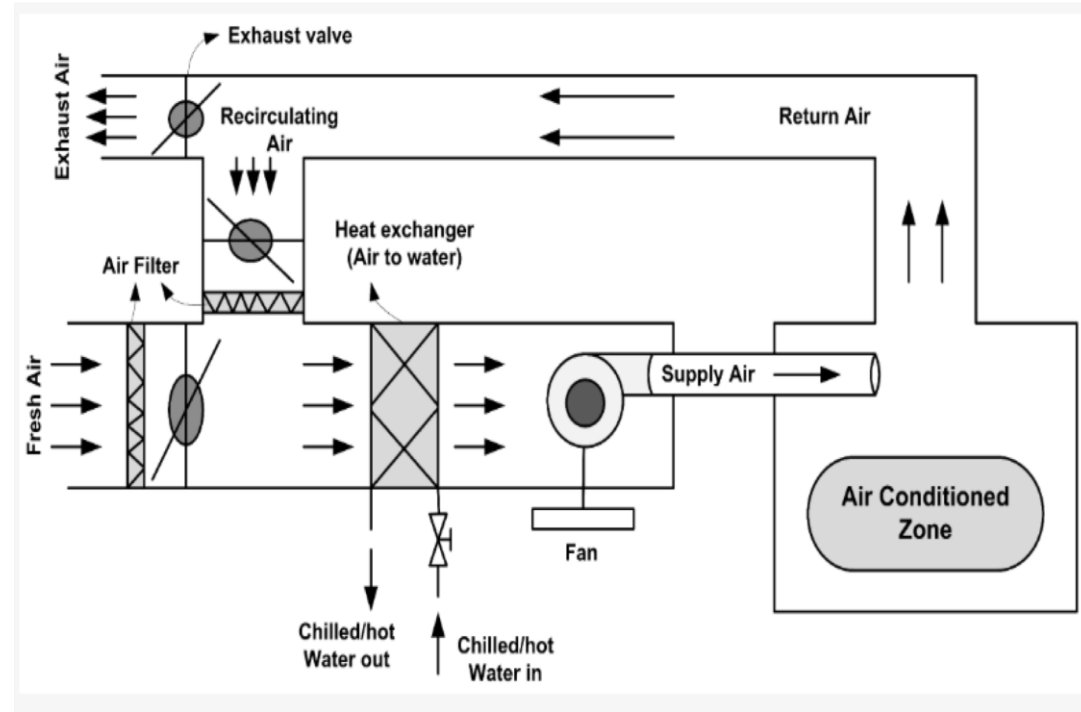
According to the WHO, COVID-19 virus is primarily transmitted between people through respiratory droplets and contact routes.

- When the droplet particles are $>5-10\text{ }\mu\text{m}$ in diameter, referred to as respiratory droplets and when they are $<5\mu\text{m}$ in diameter, they are referred to as droplet nuclei.
- Respiratory droplets normally are too large to remain suspended in the air and usually fall and land on surfaces. But Droplet nuclei (0.5 to $5\mu\text{m}$) are believed to be able to remain suspended in air for hours and therefore be entrained into HVAC systems.

HVAC SYSTEM EXPLAINED

A typical HVAC system commonly found in commercial and institutional buildings. It is fundamentally a recirculating system with a portion of outside air added continually while a similar portion is exhausted.

Air is filtered before recirculation and moved around using fans. Heating and cooling are typically provided by finned coils using heating or chilled water.



PROBLEM:

The journey that a virally infected droplet would experience to arrive back in an occupied space.

It would typically include extended ducted air pathways, multiple changes in direction and air velocity, and multiple impacting surfaces including air filters, fans, dampers and grilles. There is a good likelihood that a particle would impact, entrain and dry on a surface.

AND

The filters are not good enough to filter the new threats (we are taking 0.1 micron to 10 microns here , even PM2.5 is 2.5 micron) !!!

Three Options for HVAC Air Purification



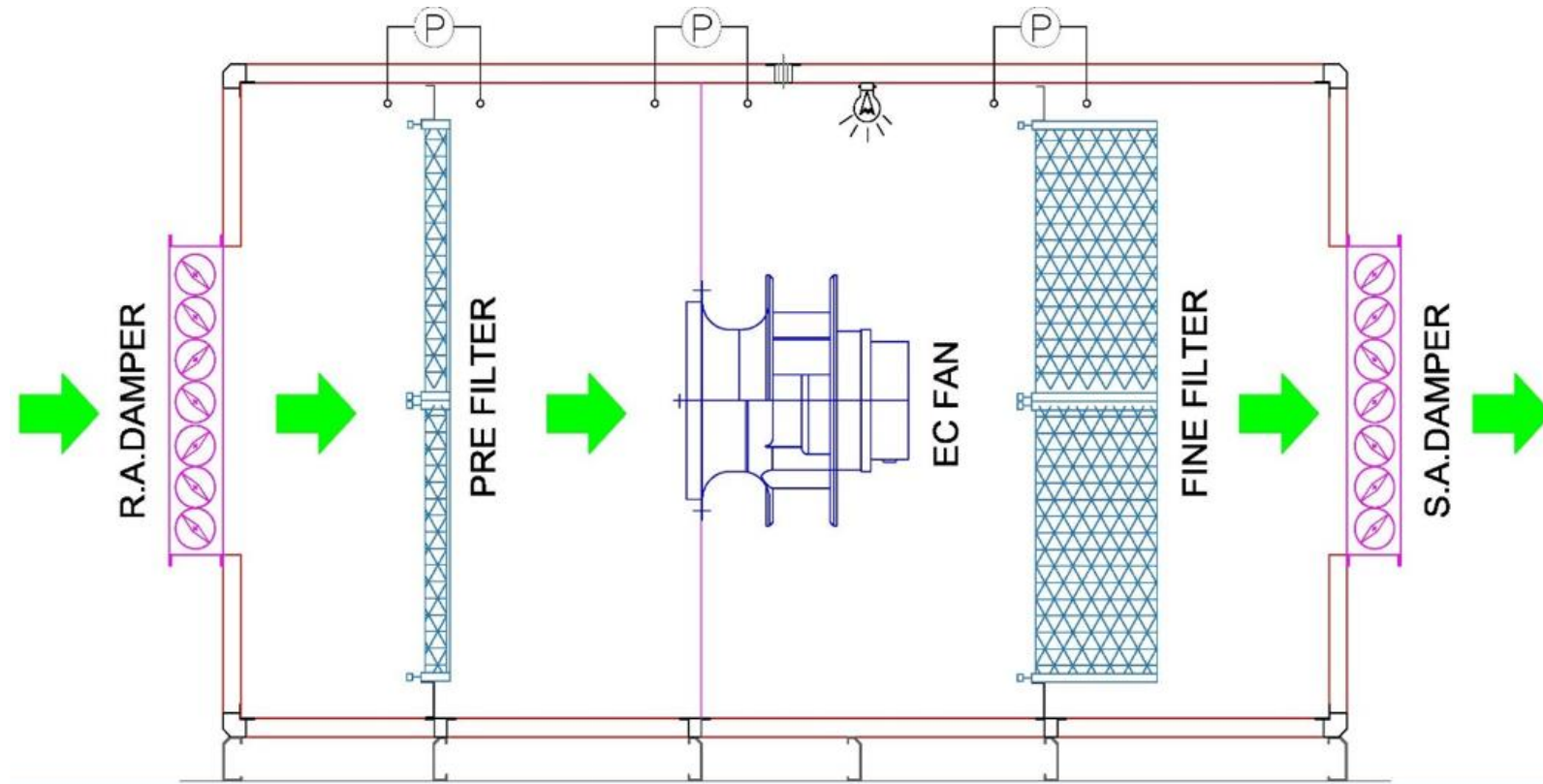
Based on extensive experience in pharma and healthcare environment We have come up with solution to improve the filtration level of the existing conventional system with minimum modification , allowing immediate protection and safety for longer timeframe

1. Modification of existing AHU with filtration.
2. Install Inline Fan unit in the main supply duct.
3. Install standalone compact system in the area with high ACPH.

OPTION 1: AHU Retrofit Solution for Large Installations with Central Air conditions

1.Modification of existing AHU with filtration.

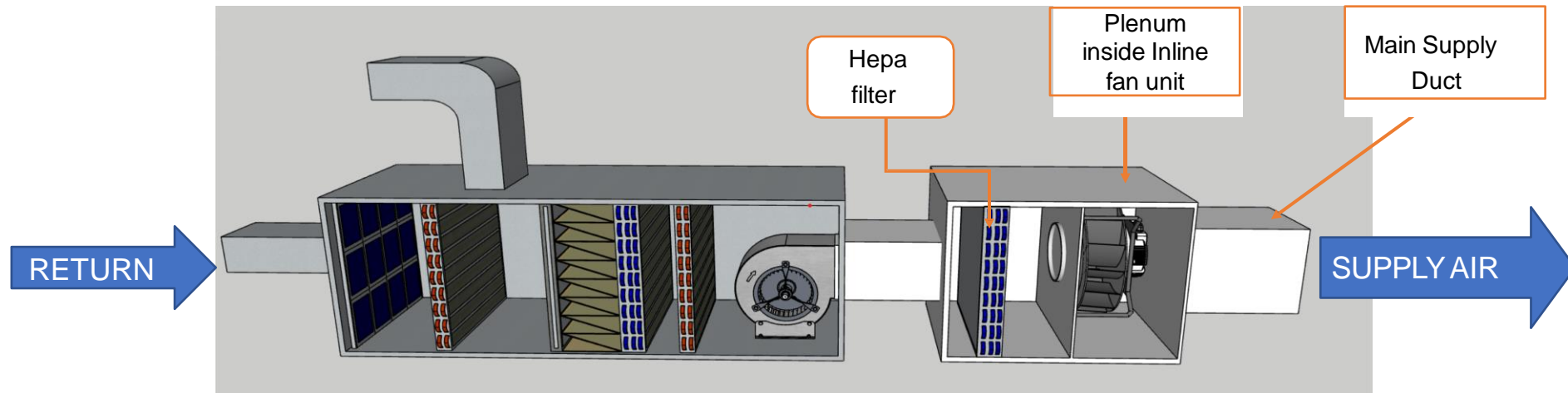
With HEPA filter system. To overcome the static , generated by HEPA filter and also higher capacity of compact size fan need to be installed on this system.



OPTION 2: Retrofit

2. Install Inline Fan unit in the main supply duct:

In this system, as shown in figure external plenum has to be installed in inline of supply duct. Hepa filter with fan is to be installed in this plenum.



OPTION 3: Standalone Air Refiner Units



3. Install standalone compact system in the area with high ACPH.

In this scenario, One standalone system is installed in the supply area. The standalone system is combination of high efficiency fan with high efficiency Hepa filter. The system can be designed for higher ACPH .

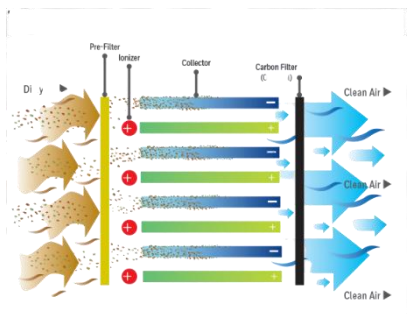
Process: That system takes return air from room and supply the air on same room. That will take less time to clean the air in the room due to higher ACPH. Higher ACPH is achieved by our EC SYSTEMS.

UVGI radiation: Additional suppression mechanism of UVGI radiation can be implemented at central level or on decentralized basis.

Benefit of Air refiner Unit

- Reduced environmental impact
- Clean products, fewer operational disruptions
- Easy to adapt ducts and diffusers Less odor
- Healthier employees Less cleaning
- Lower energy costs





Air Purifiers- Commercial Spaces

An air purifier that can be installed directly in your AHU room at the return side filter.



Air Purifiers- Residential Spaces

Smart technology that senses pollution level inside the room and operates the device automatically.



Car Air Purifiers

Real-time Air-meter for your car.



Desk Air Purifiers

KAPJ 501 | Air Purifier | Smart Sensor | HEPA Filter | Remote Control



Air Quality monitor

Airveda Abs Smart Accuracy Air Quality Monitor With Laser Sensor, Wi-Fi & App-Enabled

Health and productivity can take a hit in a workplace/ home with poor air quality. Here are some things to look out for.

Healthy Standee addresses all 3 sources of indoor air pollution (particles, aerosols and odors). The key to the system is Ultra- Violet Germicidal that destroys viruses, bacteria and volatile organic compounds (VOC) in addition to particulate filtration within the air purifier.

Typical Room Air Contaminant Reduction

- Particles down-to 15 microns
- Viruses and Bacteria
- Volatile Organic Compounds (VOC)
- Effectively kills virus and bacteria.
- Safe to use in OFFICES, CLINICS, HOSPITALS and HOMES.
- Extra dosage of UV-C Germicidal for fast purification.
- Strong after sales services and availability of spares.



HVAC Retro fitment already done by our team



EC Fan replacement – with Filtration Projects already completed or ongoing

Doctor Reddys Laboratories
Accenture
GMR Group
Glaxo Smith Kline
ICICI Bank
TRIL - Ramanujam IT city
Emcure Pharmaceuticals
Airtel
USV Limited
Genpact
ITC
FDC Limited
Gennova Pharmaceuticals Ltd
Infosys
ITC Maurya
Axis Bank (PSIPL)
Jhonson & Jhonson Private Lim

ITC Sonar
Schreiber Dynamix
Apollo Clinic
Bosch Automotive Electronics I
JB Chemicals (Unique)
IBM
ITC Mughal
Corning Technologies India Pvt
Nobel Pharma
Wrigley India PVT LTD.
ITC GRAND MARATHA
TEVA Pharma
Express Avenue Mall
Zydus Cadilla
Hero Cycles Ltd.
ITC GREEN CENTRE
Jones Lang Lasalle (IBM)

Hindustan Unilever Limited
Mondlez India Foods Private Li
STANDARD CHARTERED
Cipla India
ITC GRAND BHARAT
Titan Company Limited
Samsung Electronics India Priva
Cognizant
Shri Ram Piston
Minda Corporation Ltd.
ITC Rajputana
Baxter India
Fresenius Kabi
Chiron Behring Vaccines Pvt Ltd
IPCA Laboratories
Fresenius Kabi Oncology Ltd.
Synthokem Private Limited

Corporate Office

Mumbai

16B, Apollo Industrial Estate,
Off Mahakali Caves Road, Andheri (East),
Mumbai - 400 093. Maharashtra, India.

T: +91 22 26878465, +91 22 26878468,
+91 2240022204, H/P: 9820338352



Pune

Keystone Business Hub, Office number 11,
Second Floor, Bhelke Nagar, Kothrud, Pune
411038. Maharashtra, India.

T: +91 020 25385277



+91 9619539135
+91 9970181270



mumbai@wellsafetech.com
girish@wellsafetech.com

