

Emergency Quarantine Isolation Room Design for a Medical Centre

CASE STUDY: MEDICAL CENTRE

Customer Profile:

- Location: Dubai
- One of the top-rated medical centres
- Promises to provide international standards of medical care

If we see the history, pandemics continue for at least 2 years. COVID-19 cases are stressing the world and are expected to stay for a few more months. The year 2020 has become 'a year to forget' because of this epidemic. Healthcare facilities are under huge stress to bear with the current circumstance. Hospitals, medical centres, clinics every facility are renovating their isolation rooms or patient rooms settings to infection-free zones to treat COVID patients.

Filtration Situation:

The client, a top-rated medical centre of Dubai follows stringent medical regulations as per the government guidance. As a part of precautionary measures against COVID-19, the facility decided to implement comprehensive measures in line with government health regulations to ensure the safety and wellbeing of the patients.

The clinic decided to build emergency isolation rooms for expected COVID positive patients. They approached air filtration expert AAF to support them to convert a few of their patient wards to Class N isolation rooms.

AAF International Solution:

AAF experts visited the clinic and analysed the air supply and airflow rate of the ward. Initially, they proposed to convert the patient rooms into infection-free isolation rooms with HEPA filtered air supply and exhaust system to meet ISHRAE standards.

AAF proposed Astropure 500 portable air purification system with 3-stage air filtration with UV light in exhaust. The airflow was designed to meet the negative pressure of the -5Pa proposal of ducting outside the patient ward.

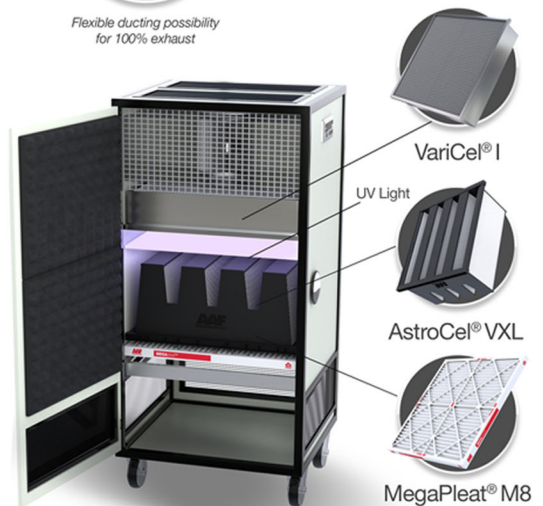
AstroPure 500 is a stand-alone complete air purification system to recirculate and clean the air in a controlled environment.

It combines particulate, gas-phase and HEPA filters to remove airborne particles, gaseous contaminants, viruses, bacteria, fungus and molds to provide total clean air solution. The pre-filter prolongs the life span of a higher efficiency filter. The gas-phase filter effectively removes odor problems. And the final stage of filter, HEPA to remove fine particles, viruses, bacteria, fungus, molds with an efficiency of 99.99% at 0.3µm. This powerful system delivers 500 CFM operating airflow.



Flexible ducting possibility for 100% exhaust

AstroPure 500

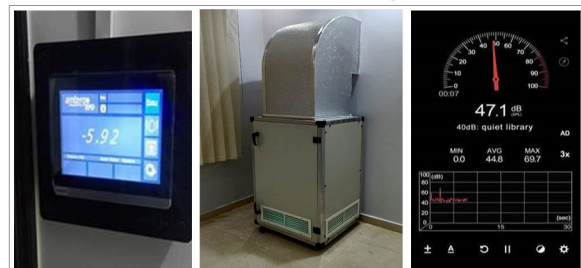


Results:

The client was happy with the retrofit solution and due to the space restriction to add additional air purification equipment for exhaust air, the equipment has placed next to the rooms and connected through the duct.

AstroPure 500 equipment has converted the standard patient room to a negative pressure room. The negative pressure of -5.92 and a minimum sound range of 47.1 has been achieved and tested after the installation.

Real Time Installation Images



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