

Improve IAQ for Better Working Condition

CASE STUDY - COMMERCIAL

Customer Profile

- Location: **India**
- Foreign bank in India with a full-service onshore platform
- One of the multinational banking and financial services company

Banks, like most commercial buildings, have their hands full considering the novel coronavirus outbreak (COVID-19). Even with the ongoing adversities while several segments could not operate, bank agents provided real-time guidance by phone, helping customers accurately complete the entire process (and providing much-needed information and reassurance during these uncertain times). They also, however, needed to prepare for re-opening their premises once the pandemic situation improved.

Client Requirement

One of the giant multinational banks planned to improve IAQ in its premises and to provide better working conditions, as a measure to safeguard its employees. Thus, the customer approached its facility manager/ consultant to look for companies who can provide them with HEPA filters for their AHUs in accordance with ISHRAE standards. An additional requirement from the maintenance team was to reuse their existing AHU and to only change filters to improve air quality by controlling dust, odour, and other air pollutants.

AAF International Solutions

AAF representatives along with the technical team visited the bank and conducted an audit to have an idea on the current air quality of the premises. Based on the audit report AAF suggested pre-filter to be changed in the existing AHU (taking into consideration the requirement of reusing the existing system), to arrest dust, odour, and other air particulates. Team also added a pre filter to the fresh air intake to ensure that the air is being filtered at all levels.

Looking at the size of the office space, AAF also proposed to place a recirculation unit, as all the return air from the building was entering/ accumulating in the AHU room since there was no other provision of duct to carry and release the air back to the fresh air releasing vent.

Since a RU unit has HEPA filter & UV light to arrest the dust, odour, gaseous contaminants, other airborne pollutants and viruses before releasing fresh air, the maintenance team agreed to the suggestion which at the end helped improve the overall air quality in the premises.

One Purair350c was also recommended by AAF to be installed at the reception area, to be able to control & arrest the spread of airborne viruses brought to the premises by the walk-in customers.

Filter & Equipment's Recommendations

Proposed Filter was AmWash both at the AHU & Fresh Air Intake. Along with a SAAF Recirculation Unit in the AHU room & a Purair 350C at the reception area.

Recommended Prefilter

AmWash

The AmWash filter is a lightweight panel filter and has a sturdy, long lasting aluminium frame that offers great resistance in harsh operating conditions. Due to its lightweight and compact size, this filter is relatively inexpensive to ship and easy to handle and install. If required, the AmWash filter can be customised with a stainless steel or galvanised steel frame and can be manufactured to any size.

As changing the AHU was not an option and we had to ensure we give best possible option to the client while we replace filter in the existing AHU.

We had to customise the frame & dimension on the proposed filter to fit the existing AHU AmWash was the perfect fit.

Recommended Equipment

Re-Circulation Unit

The RU contain all components needed to purify an enclosed room. The RU recirculates air inside the room. AAF's patent-pending filter sealing design prevents by-pass and wasted energy and provides the cleanest air in any given conditioned space.



Image 1: AmWash

Advantages of Re- Circulation Unit

- A stand-alone complete air purification system to recirculate and clean the air in a controlled environment.
- It combines particulate and high efficiency filters to remove airborne particles, gaseous contaminants, virus, bacteria, fungus and molds to provide total clean air solution.
- Pre-filter to prolong the life span of a higher efficiency filter.
- Final filter to remove fine particles, virus, bacteria, fungus, tmolds with the efficiency of 99.99% at 0.3µm.

Recommended Prefilter

VariCel RF/C

Varicel RF/C is a chemical filter with 60% granular activated carbon with MERV8 efficiency and provides high-efficiency

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odour removal and particulate collection. The media is pleated and housed in a rigid metal frame. The frame is available in either the standard box style, no-header version, or with a single 13/16" thick header. The VariCel RF/C with galvanized steel construction and plastic pleat spacers on the air-entering and air-leaving sides, withstand the most demanding applications. Pleat spacers maintain the shape of the synthetic media pack and ensure that both the effectiveness and service life are maximized.



Image 2: VariCel® RF/C

VariCel® VXL

VariCel VXL here is a secondary filter with F7 efficiency and with 50% more media area to provide greater airflow capacity with low resistance, it also has maximum dust holding potential which further helps in extending the life of the HEPA filter, hence minimising operating cost.



Image 3: VariCel® VXL



Image 4: AstroCel® VXL

AstroCel® VXL

Astrocel VXL is a HEPA filter with H14 efficiency, with guaranteed long service life. It has high media area with low pressure drop which helps in collecting fine dust & particulates.

PurAir 350C

PurAir 350C is compact design ceiling mounted unit

integrated with three-stage of high-performance filters which can efficiently remove indoor fine particles, harmful gases, bacteria, and virus.

The machine adopts EC fan and a three-speed switch function. The optimized sealing structure can effectively control noise. A quick ceiling mounted structure design is suitable for ducts and surface mounted environments.



Image 5: PurAir 350C

- First-stage coarse panel filter is used to effectively remove indoor large particles, dust, and hair.
- Second-stage gas-phase filter can effectively remove indoor TVOC, odours, harmful gases, such as formaldehyde.
- Third stage H14 HEPA filter can remove indoor fine particles such as PM2.5, PM1 and bacteria and virus.
- Quick ceiling mounted structure design is suitable for pipelines and surface mounted environment. With upstream and downstream pressure drop detection port, it meets the professional site testing requirements.
- Easy-to-replace air duct adapters at both ends for on-site installation.
- Humanized automatic stop function when opening cover to protect operator safety.

Results

The dealer & the end user, in this case the bank, were both very satisfied with the detailed product proposition shared by AAF representatives to improve the IAQ in the working space. The equipment's & the filters were implemented by the dealer under the supervision of AAF technical team. The bank also received the TCO of the recommended products analysed by AAF. The staff were then assured with an improved IAQ by the Bank Management after the successful implementation of AAF's IAQ solutions.

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