How to choose the right air purifier?

When it comes to judging the performance of an air purifier and comparing different options, you need to start with their Clean Air Delivery Rate (CADR).

A high CADR requires an air purification system that can deliver a high volume of air and at the same time maintain high separation efficiency over time. It is therefore vital that you ensure that the air purification system is capable of doing this and that the supplier can guarantee that the system won't lose airflow, that is, how much air is treated, or how many particles are captured in the filter, over time.

It is also important to verify what CADR the system can achieve at your premises, taking into account any noise or draught problems, for example, rather than relying solely on the air purifier's maximum airflow and separation efficiency. Once you're familiar with the concept of CADR and know what airflow per hour each air purifier can achieve, you can start comparing!

CADR is the industry standard for determining the efficiency of an air purifier so that you have an easy way to compare air purifiers.

Clean Air Delivery Rate (CADR) =
The product of how much air the air purifier treats per hour and what proportion of the total particles are caught in the filter over time.

CADR (m3/h) =
Separation efficiency (%) x Airflow (m3/h)

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Checklist for choosing the right air purifier and supplier

1. Correct CADR
Make sure you get correct specs for the Clean Air Delivery Rate (CADR) the air purifier can achieve once installed at your premises. Not just the machine's maximum clean airflow.

2. Verified test result
Ask to see test results from an independent, ISO-accredited testing institute for both airflow and separation efficiency.

3. Certified filters
Make sure the filters that are going to be used in the air purifier have been tested and classified by an independent testing institute according to ISO16890 or EN1822.

4. Constant flow control
Make sure the air purifier is fitted with a constant flow control. Otherwise, you will get a system that delivers less clean air as the filter is reused or loses its separation efficiency.

5. Automatic alarm function
Make sure the air purifier has an alarm function that notifies you when it's time to replace the filter.

6. Approved for sprinkler systems
For ceiling installations, it's important to ensure that none of the sides of the air purifier's cross-section are longer than 1m since this may mean you will have to adapt your sprinkler system.

7. Lightweight unit
Make sure the air purifier is as lightweight as possible, especially for ceiling installations, to ensure minimal structural strain on your building.

8. Optimum operation
Make sure the air purifier can be installed in such a way that it will achieve optimum performance without getting in the way, and that the system won't create noise disturbances, draughts or other downsides.

9. Correct comparisons
Make sure all the air purifiers you are offered deliver the same amount of clean air per hour, CADR, so that you are comparing "apples with apples".

10. Add up total costs
Add up the total cost for the air purifier, installation, servicing and changing the filter, and for energy use.

11. Warranties
Check out what warranties are available to you and how long they last for.

12. References
Ask the various suppliers for references who you can contact to ask about their experiences.

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