PROJECT N95

How to Select a Commercial Air Purifier

Step 1: Determine the correct clean air delivery rate (CADR) for your space using the Portable Air Cleaner Sizing Tool from Harvard.

You will need:

- The square footage for your room (length x width)
- Ceiling height
- Desired air changes per hour. We recommend at least 5-6 air changes per hour, per the CDC, the California Department of Health and The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).
- The calculation will give you the total CADR for your space. To determine the number of units needed, divide this number by the device CADR, which you can find in Step 2 below, at the **Association of Home Appliance Manufacturers (AHAM) Verifide** site or the **Energy Star** site.

Step 2: Go to the Association of Home Appliance Manufacturers (AHAM) Verifide air purifier site

Products with an AHAM Verifide certification have been independently tested for their CADR in controlled laboratory tests.

The AHAM listing will give you CADR rates for dust, pollen and tobacco smoke. Choose the tobacco smoke CADR, which you will use in Step 1 above to determine the number of air purifiers needed.

Please note: *AHAM CADR ratings are usually determined by the highest setting on the air purifier, which can be noisy. A lower, quieter setting will not deliver the stated clean air delivery rate on the AHAM site.*

You can also use the information at **Energy Star** which uses the AHAM/ANSI AC-1-2002 testing procedure for portable air cleaners, the same procedure that AHAM uses. It's a test procedure developed by the Association of Home Appliance Manufacturers (AHAM) and recognized by the American National Standards Institute (ANSI).

In addition to CADR test information, the Energy Star site provides data on annual energy consumption.

Because this is a government site and does not require a testing fee, there are more air purifier brands and models than those listed on the AHAM site

To learn more about the testing performed on the Energy Star site you can click here.

Step 3: Check if the item is certified by the California Air Resources Board (CARB) to ensure the device does not produce ozone beyond a threshold level.

In addition to HEPA filters, some air purifiers include ionizers, which can generate ozone and is hazardous at relatively low levels. CARB certified devices have been checked to determine if ozone levels are within acceptable limits.

We recommend avoiding air purifiers with ionizers. However, if the device you choose has an ionizer, be sure you can switch it to the “off” position. Some air purifiers have ionizers that default to the “on” position upon powering up and must be turned off manually.

Step 4: Noise Level

If you are concerned about noise level, you can check out this spreadsheet from Clean Air Stars to determine its decibel (dB) level.

Be sure to click on the US Tab to find the relevant air purifiers. The spreadsheet contains a wealth of information in addition to noise level measurements.

Some lower cost options come from Honeywell, Danby, and Lasko. Check the AHAM website to ensure that the model you choose is AHAM certified.