

Determining The Number Of Air Scrubbers

To determine the number of air scrubbers needed for a remediation, restoration or other job, use the following steps:

1. Calculate the size of the room in cubic feet. The equation for that calculation is the room length multiplied by the width multiplied by the ceiling height.

Tip: Cubic feet and square feet are very different numbers. Make sure your calculations use cubic feet or any air scrubber calculations will be off dramatically!

2. Now calculate how long one air scrubber takes to change the air one time. To do so, divide the room's cubic feet from step 1 by the CFM of one air scrubber.
3. Once you know how long it takes for the air scrubber to change the air once, use this to determine how many times the air will be changed each hour of operation. To do so, divide 60 minutes by the time it takes to change the air once (from step 2).
4. Divide the desired number of air changes per hour by the rate at which one of our scrubbers changes the air. The general standard according the IICRC is 4-12 times per hour. A good standard number for calculation would be 6 times per hour.

This will tell us how many air scrubbers needed.

EXAMPLE:

Room Size: $18' \times 26' \times 14' = 6,552$ cubic feet

Single Air Change: $6,552$ cubic feet / 500 CFM = 13.1 minutes to change the air

Changes each hour: 60 minutes / 13.1 minutes = 4.58 changes per hour

Desired Air changes per hour: $6 / 4.58 = 1.31$ machines

At least 2 machines would be needed for this location