

Marijuana Growing guide - Air

The regular replacement of the air in your grow room has a surprisingly large effect on the final size and quality of your crops. Not only do our [ventilation fans](#) and extraction fans allow you to regulate your grow room temperature, but also maintain a constant supply of fresh air to your plants - essential if you want to keep a healthy growing environment. The regular replacement of fresh, CO2 laden air in the growing space is of huge importance, and without it one can expect low yields of low quality product.

Exhaust Fans:

Apart from replenishing stale air with fresh CO2 the main reason we exhaust air is to reduce heat created by high powered [growing lamps](#). For that reason we always exhaust air from the top of the growroom because this is where hot air, which is lighter, accumulates.

A basic rule when determining how much exhaust is needed is to firstly calculate how much cooling will be needed. We can do this by adding up how many watts of lighting we are using in the room. Divide this sum by 2 to get the approximate amount of cubic metres your exhaust fan needs to be able to pull every hour. Then add 20% to make up for the carbon filter.

For instance: exhaust needed for a room with 4 lamps x 600 Watts

$$4 \times 600 = 2400$$

$$2400 \div 2 = 1200$$

$$1200 + 20\% = 1440$$

Always round this up to an available size which in this case it would be 1500m³



Intake Fans:

Intake fans are necessary especially when running more than 2 or 3 lamps. If too much air is being taken out without a fan bringing air in, it creates a large vacuum and fresh air tends to go straight to the [carbon filter](#), missing the plants. The intake fan should be somewhat smaller than the exhaust fan so the room is always under some suction. For example if using a 1500m³ exhaust fan, an intake fan of 1000m³ would be required. Both fans should plug in to the same [thermostatic controlled speed regulator](#) to ensure they speed up and slow down together.

We advise using [airsocks](#) for incoming air. These are tubes of special material that let air through along their entire length. Airsocks attach directly on to a flange of the same size, usually mounted on the wall or [boxed fan](#). They come in various lengths and should run the entire length of the growroom, enabling fresh air to reach the whole crop. In cooler climates its best to hang the socks higher to let cool air, which is heavier, fall down through the crop. In warmer climates or summers run the socks along the floor to let warmer air, which is lighter, rise through the crop.



It's always better to have a bigger motor running at a lower speed than to have a motor that's too small going at full revs. It's better because the noise is lower so better for the neighbours, and it's best for the life-time of the motor. In most places the difference between summer and winter temperatures is significant, and because of that more air will be required to cool the room in summer and less in winter. Many growers have problems cooling their rooms in summer mainly because their exhaust fan isn't big enough to cope. Make sure your exhaust fan has more than enough power.

For the best results plants need to grow in an even air temperature. A [thermostatic controlled speed regulator](#) is an essential piece of equipment for keeping temperature fluctuations to a minimum. Simply set the temperature for 25 degrees and your fan/s will run faster or slower according to the air temperature.



Carbon Filters:

[Carbon Filters](#) are a must for complete piece of mind. Other options are available but nothing else offers the same level of smell suppression. They are big and heavy but once installed they offer a full years smell-free growing or more. Filters come in different m3 sizes just like the fans. Don't skimp and try to use a filter with less capacity than your exhaust fan, you need the same size to do the job properly.

The filter needs to be installed at the top of the growroom because this is where old hot air rises to and accumulates. If the ceiling isn't able to hold the weight of the filter, a filter stand can be a useful piece of equipment. Most carbon filters need to be changed every 12 months for complete smell free environment but can last up to 18 months if the [outside dust filter](#) is changed regularly and humidity is kept under 85%. Most carbon filters can be refilled after this time with extra activated coal.



Air circulation:

Air circulation is just as important as air replacement and the grow room should be set-up with this in mind. The basic rule is that all the plants should be moving in a breeze every few seconds. The breeze is good for many reasons not least that it strengthens the plant stems, making them ready to bear heavier fruits. It also helps control fungus outbreaks and pest infestations such as spider mite which both love to live in still conditions, and it delivers fresh CO2 laden air to the plant. Ideal conditions can be achieved with the help of large [ground fans](#) and smaller [oscillating fans](#). Install fans so the air in the room is moving with a kind of 'tornado' effect circulating as evenly around the room as possible. Don't have large fans blowing directly onto the plants.

