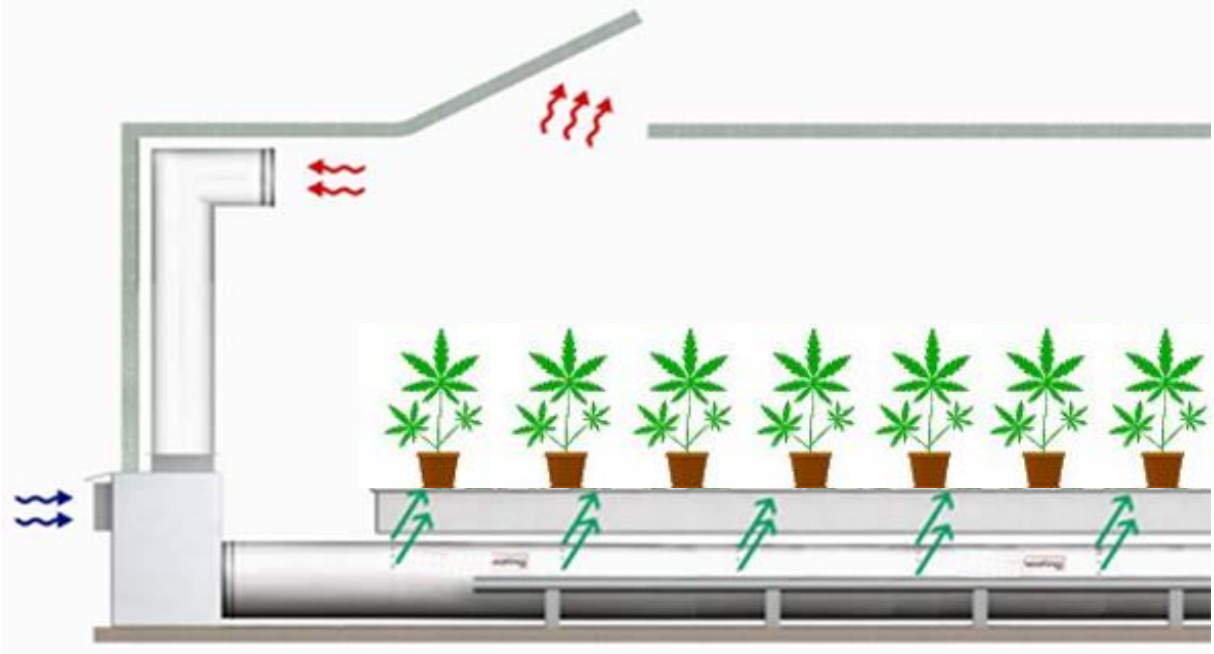
Active ventilation system

Ventilation and dehumidification on croplevel onder the gutter

Next Generation Growing (Het Nieuwe Telen) has become a household name in modern, international greenhouse horticulture. This new view of the greenhouse climate teaches us that controlling temperature, humidity, CO2, light and screens leads to energy-efficient cultivation with optimum production. The Active Ventilation System (AVS) dehumidifies the greenhouse air in an energy-efficient manner. The AVS unit draws in outside air and/or greenhouse air via a mixing valve and blows this mixture (via a central heating block) into the greenhouse. Due to the relatively dry outside air, the greenhouse air is dehumidified and the central heating block can be used to heat the mixture to the greenhouse air temperature.





This system is very usefull for high-tech medical cannabis greenhouses. It ventilates and dehumidifies from under the gutter directly to the crop. The grower will experience that all his plants in the greenhouse will have a active ventilated microclimate with minimum temperature differences.

Because of the extra emphasis that is being put on sustainability and energy savings, conditioned cultivation is playing an increasingly more important role in modern greenhouse horticulture. Actively ventilating your greenhouse air with relatively dry outdoor air is a new and simple application for this purpose. Because the outdoor air contains less moisture than the air in the greenhouse, the greenhouse is dehumidified by blowing outdoor air into it.
The outdoor air drawn in can be heated in three different ways, where necessary:

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- By mixing the outdoor air on the inlet side of the AVS unit with warm greenhouse air
- By fitting a central heating block on the inlet side, in order to heat up the outdoor air to the air injection temperature required.
- By using an AVS WTW unit with a built in heat exchanger

Air can be injected into a greenhouse using one or more air hoses per unit. We will be pleased to produce a calculation for the air hose(s) required and any corresponding pipe system.

As outer wall units, the AVS units have been designed to be fitted on outer greenhouse facades. The unit consists of a plastic casing containing a ventilator, a valve box, central heating element and filter. The use of plastic for the casing guarantees a long working life. This casing is produced from 16-mm thick industrial quality polypropylene plastic. This material has good insulating properties, is UV resistant, very easy to shape and can be used in temperatures ranging from -30 to +100°C.

The AVS unit is available in different capacities. Because of our modular approach to design, an appropriate AVS system can be produced for virtually every situation. When designing a system of this nature, Van Dijk heating considers your specific wishes and requirements. We advise a minimum ventilation level of 5 m3/m2 per hour for the injection volume.

By combining the AVS system with water atomisation, it will also be possible to use it for cooling purposes.

Improved efficiency

- The effective use of low value temperature systems
- Improved CO_2 distribution
- Higher CO_2 concentration in the greenhouse
- A reduction in disease pressure

Improved microclimate:

- Minimum temperature differences
- An improved microclimate
- Active ventilation

Energy saving:

- Dehumidification of the greenhouse air without adding heat
- More intensive use of screens