OptiClimate: optimum climate control 365 days a year!

Creating a completely enclosed and easily manageable growing environment is the ultimate goal of the modern indoor gardener. With an OptiClimate System in place you are able to take an unprecedented level of control over the area surrounding your plants. It lets you select desired day and night grow room temperatures and then continuously treats the air (heating, cooling, extracting, etc) to reach and maintain these targeted settings. If you want to grow great plants for 365 days of the year, under conditions that remain exactly the same whether you're in summer or winter, OptiClimate is the system for you!

What is an OptiClimate System?

The OptiClimate System is a water-cooled climate control unit purposely designed for the indoor horticultural market. Large-scale grow tent owners actively extracting air and introducing fresh supplies can use this awesome product to establish precise temperatures and then rely upon it to respond when necessary to hold them steady.

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The other exciting option is for people that have opted not to use a tent. An OptiClimate System provides the basis for building the ultimate 'closed loop' plant-growing chamber – an incredible secluded paradise, far removed from neighbouring indoor and outdoor environments.

Pleasingly this dream set up is achievable in the simplest form by having a normal light arrangement, growing system, humidifier and a CO2 generator and CO2 controller (you want minimum contact with the outside world, meaning no intake of air, which of course would contain carbon dioxide – so it must be added).

Furthermore, when the OptiClimate System is used alongside premium 'companion' products (i.e. they're made to work with each other) like the DimLux Ballasts and the DimLux Maxi Controller (syncs the DimLux and CO2 equipment), something special happens – the different technologies actually communicate back and forth and react in the best interest of your plants! For example, if your grow room unexpectedly becomes much hotter, the controller will dim the lights and increase the air-cooling activity of the OptiClimate System.

What are the advantages of an OptiClimate System?

- You can establish and maintain a perfect growing environment for 365 days of the year
- You are able to achieve reliably outstanding results by overcoming seasonal constraints
- You no longer need to add radiators and thermostats in the winter and up the number of fans/upgrade to bigger fans/set up mobile air conditioners in the summer
- You find large-scale air exchange becomes a thing of the past (only a small extractor fan and carbon filter are required to achieve negative pressure)
- You can effectively and efficiently introduce CO2 into your grow room, leading to increased vegetative growth, improved yields and a reduced flowering cycle
- You are able to stop pests and disease from entering your room by doing away with air intake activities.

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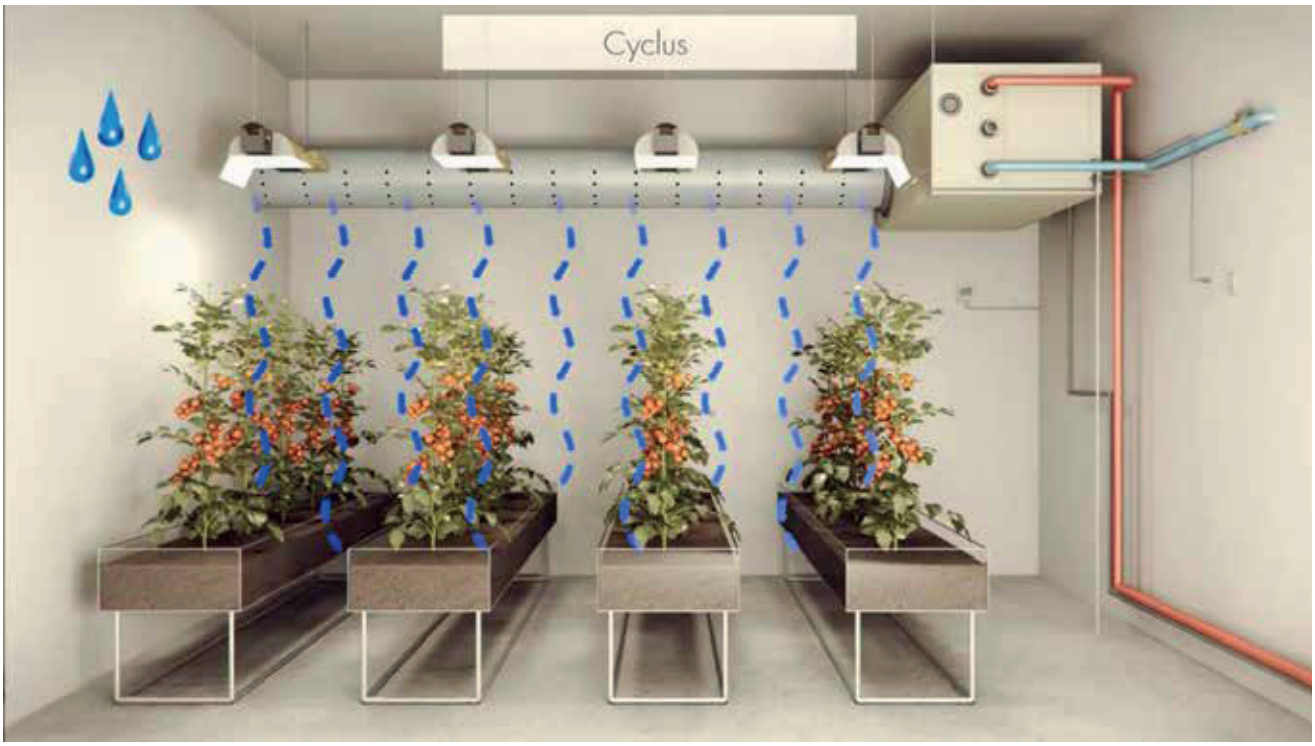
You can create the perfect climate and maintain it

An OptiClimate System allows you to overcome the impact of seasonal weather variances, since it includes both cooling and heating elements. All of a sudden super hot summer days and freezing cold winter nights pose absolutely no threat to your plants because they get to enjoy constant temperatures throughout the whole year!

Air is evenly distributed across the growing area, meaning each and every plant experiences exactly the same conditions regardless of where they are located!

A consistent, well-spread, near-to-perfect climate will go a long way towards guaranteeing that the plants produce equally fantastic performances, enabling you to achieve reliable and outstanding yields on a continual basis.



You can cool, heat, circulate, dehumidify and filter air with a single appliance

Thanks to the multifunctional nature of the product, the OptiClimate System can be trusted to maintain your chosen grow room temperature and humidity settings. It will closely monitor the environment and promptly respond if an issue arises by picking and applying the most appropriate air treatment(s). This certainly beats fiddling with separate pieces of equipment, saving you a whole lot of time and effort!

You can leave the unit to automatically adjust grow room conditions

Once you've entered minimum and maximum temperature targets for night and day, and a maximum humidity target for the night, the OptiClimate System will take care of the rest! It operates entirely automatically!

A light sensor detects when your lights go out – triggering the heating mode (and also the dehumidifying element if necessary), and similarly notices when they come back on again – this time activating the cooling mode (and also the dehumidifying element if necessary).

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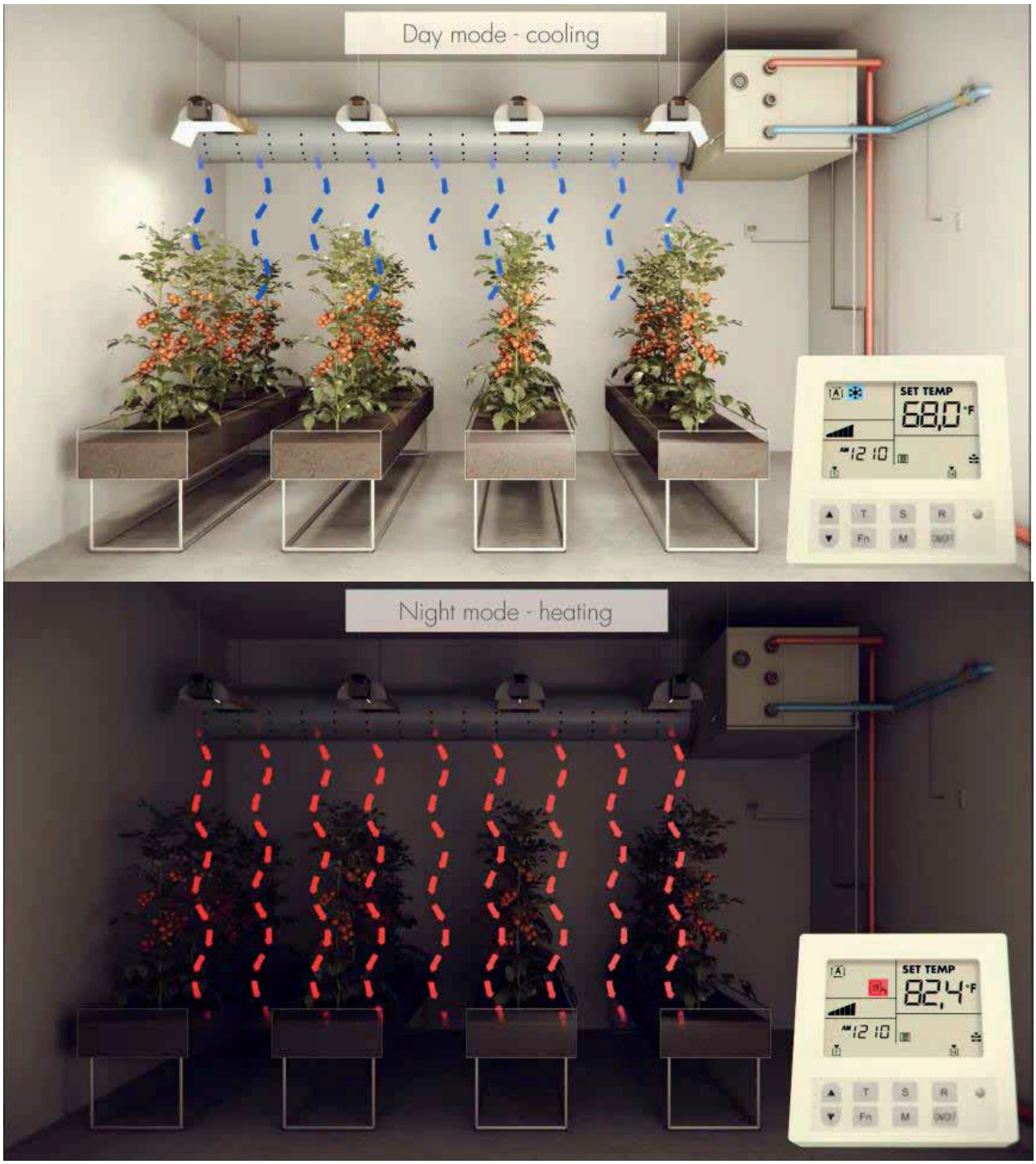
Unexpected heat waves and cold snaps are not a problem as the unit makes instant adjustments to restore the balance. That means you don't need to be present to oversee it all!



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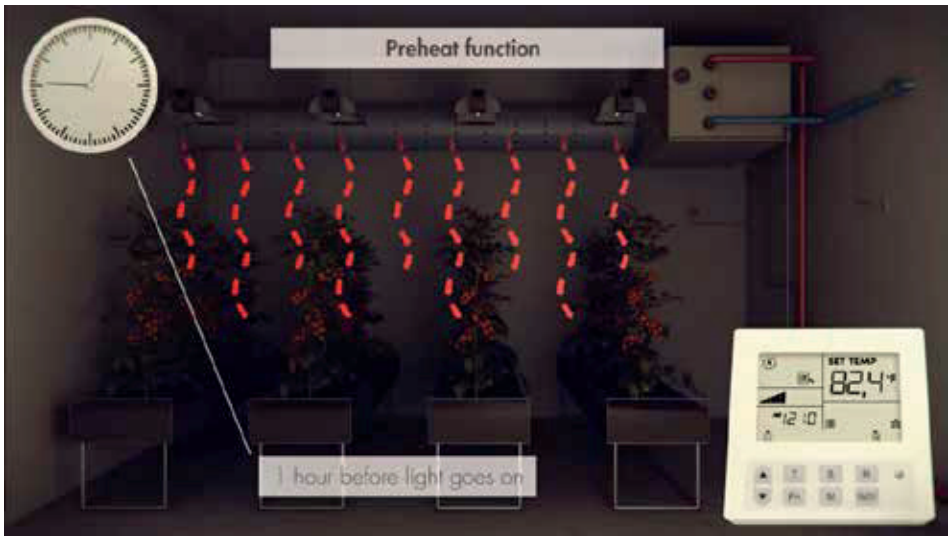
You can use it indoors and in greenhouses, for normal and multi-layer set ups

The OptiClimate System aims to improve the lives of serious growers after earning itself a superb reputation in the commercial greenhouses of Holland. You're looking at a high performance product of genuine quality that is trusted by professional growers with extensive single and multi-layer set ups. However, the unit also proves to be full of promise for people running much smaller indoor operations.

You can preheat your grow room during night-to-day transitions to stop bud rot

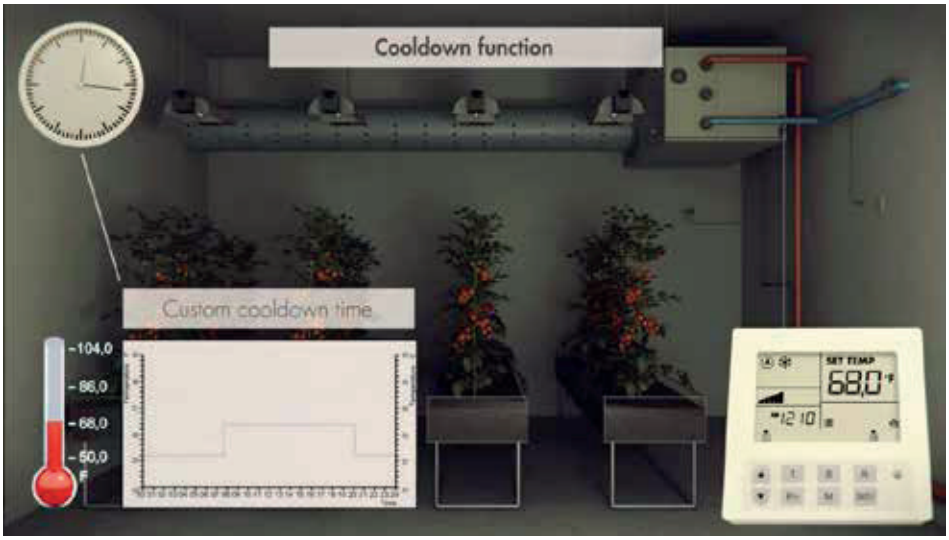
Evidence of the care and consideration that has gone into the design of the OptiClimate System is clearly apparent when you check out the pre-heat function. Upon activation this intelligent feature helps to stop condensation from affecting plants, making it more difficult for botrytis and grey mould to take hold.

Fruits tend to cool down a great deal over night, but then as the air temperature in the early morning typically rises far quicker than the temperature of the fruit, condensation forms on their cold soft surfaces – inevitably inviting conditions for botrytis. The pre-heat function combats this issue by instructing the OptiClimate System to begin warming the growing area an hour before the lights activate, so that when they do turn on, the temperature quickly matches your daytime target.



You can ensure the temperature doesn't free-fall during the turning off of lights

Another display of forward thinking by the smart folks responsible for the OptiClimate System is the slow cool down function. It ensures that the temperature does not drop too rapidly once the lights have been switched off, which would otherwise shock your plants and potentially stunt their growth. Over the first hour of the dark period the unit will slowly cool the room, allowing for a gradual decrease in temperature towards the desired nighttime setting.



You can program the unit with ease using the clear and simple remote control

A product is of little merit if it has all the greatest features in the world but no means of managing them for fast and effective use. Fortunately the OptiClimate System includes a handy controller that avoids complications! The large and highly visible main screen shows a snapshot summary of all the key factors (mode – day or night, fan speed, temperature, time, etc.), whilst a simple series of buttons facilitates quick selections and easy alterations without forcing you to trawl through countless menus. Comprehensive instructions are also provided to ensure you feel 100% confident operating the unit.

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You can avoid drawing in and extracting out large volumes of air

To keep the inside of a 'closed loop' grow room at its best and practically eliminate the impact of any external forces, air intake is simply not possible. Although you must subsequently add and manage the missing CO2 for photosynthesis with a generator and controller, this does significantly reduce the chances of disease outbreaks and pest infestations.

The carbon filter on the OptiClimate System helps you to lower the concentration of odours in your grow room, reduce noise and prevent the entry of mould. It also removes the need for a large separate extractor fan and carbon filter – allowing you to save money by scaling-down extraction activities and getting smaller fan and filter models instead.

You can safely introduce CO2 to enhance the growth rates of plants

Installing an OptiClimate System into a grow room that has been cut off from nearby surroundings and features no active air intake will require you to efficiently introduce and run CO2 dosages. This actually represents a huge advantage! Since there is also very little air extracted from the area, carbon dioxide can be added without waste – i.e. all of the growth gas generated stays within your grow room until the plants have used it.

Carbon Dioxide possesses the ability to completely transform a crop – most plants grow faster (up to 40%) and larger and yield more as a result of enhanced CO2 levels due to improved rates of photosynthesis and a reduction in water loss. There are also many other benefits for plants including greater resistance to temperature extremes and other forms of stress, better growth at low light intensities, improved root/top ratios and less likeliness of damage being caused by air pollutants.

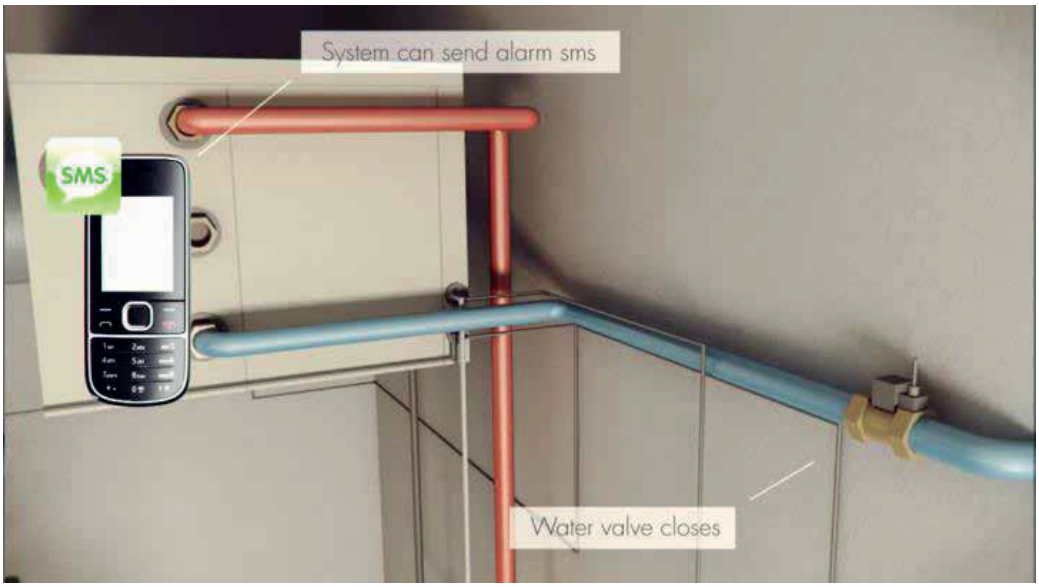
You can confidently steer clear of safety concerns

The OptiClimate System covers all of the bases when it comes to protecting your plants, equipment and buildings from fires and leaks.

Every effort has been made to put your mind at ease regarding fire safety. Firstly the electrical components and connections are fitted inside robust, flame resistant steel casing. Secondly, it uses ceramic heating – the most reliable and trustworthy type of electric heating around. And thirdly, an in-built temperature safety switch can turn off lamps if the temperature reading soars above your indicated maximum limit (which might occur due to an obstructed water supply for example).

Similarly, to counter the threat of flooding the unit includes an in-built water leakage safety switch. Any water that leaves the piping network, collects on the floor and hits the sensor will alert it to shut off the supply – most likely because of a burst pipe, broken connection or blocked sewer.

Finally, there is the option to use an excellent alarm system that notifies you of any issues and saves these message for referencing at a later date. You'll receive an SMS alert to your phone upon detection of a fault (excessive heat or a leak) and this will then be recorded by the Alarm Log function.

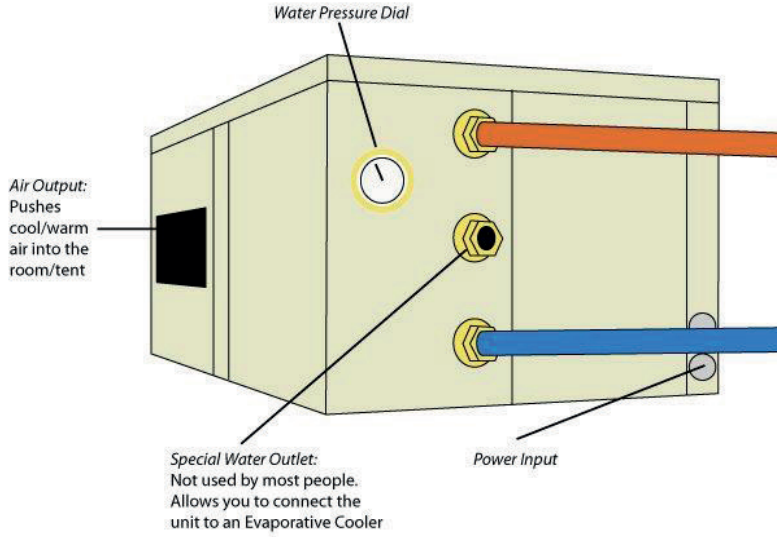


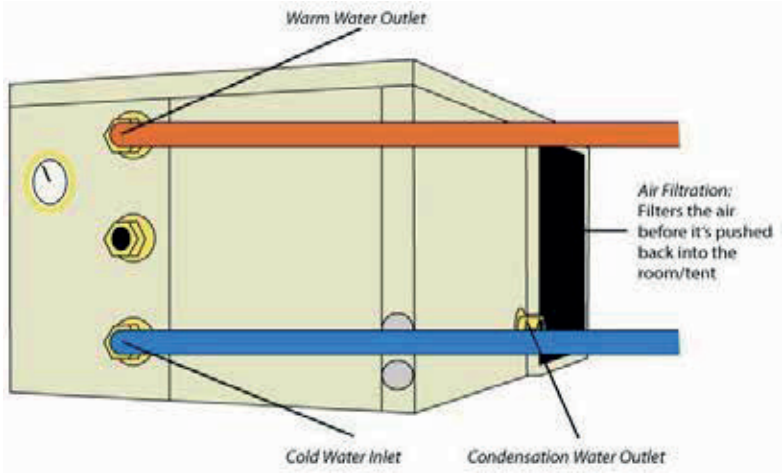
You can run the unit all day and night and not cause disturbances

The OptiClimate System is extraordinarily quiet! With acoustic insulation effectively soundproofing the unit and vibration springs helping to keep it stood still and silent, you could quite literally hear a pin drop!

How does the OptiClimate System work? And what is the best way of setting it up?

Depending on the conditions inside your grow room and the target temperature, the OptiClimate System will either cool down the air with water or warm it up by using ceramic heaters. There is an inlet that you connect to your cold water supply for cooling the air and an outlet for transporting the resulting warm water to a drain or storage tank (some people even use this 'waste' product for central heating!).





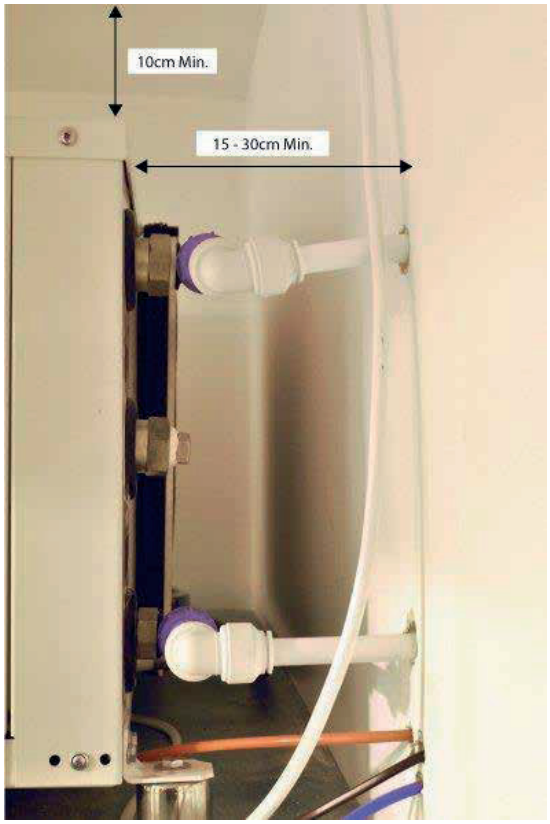
As has been previously mentioned, the unit also dehumidifies the air during the cooling process. Moisture extracted from the air enters the condensation drain, which you connect to a pipe that either feeds into your main drain, nutrient tank or humidifier reservoir. The RO water (completely purified, containing no trace elements) is suitable for use straight out of the OptiClimate System, but you may need a condensation pump to direct it to the chosen destination.

Important note: if you intend to operate a humidifier in a room with the OptiClimate System, you must use RO water (either from the condensation drain or from a separate supply treated by a Reverse Osmosis System). Failure to do so can lead to unwanted mineral deposits being left on your reflectors and in parts of the unit itself. This is a serious issue that actually voids the warranty.

The OptiClimate System should be fitted with vibration springs and positioned on a stand/raised surface (recommended) or alternatively suspended from the ceiling.

If you're not going to opt for vibration springs, it needs mounting so that the side of the condensation drain sits at least 1cm lower than the other side – thus ensuring the condensation water flows properly.

For the most efficient use of air and easy inspection of internal components, a distance of 15cm-30cm is required between the grow room wall and back of the unit. Likewise, establishing a gap of at least 10cm between the grow room ceiling and top of unit will help you to avoid any contact noises.



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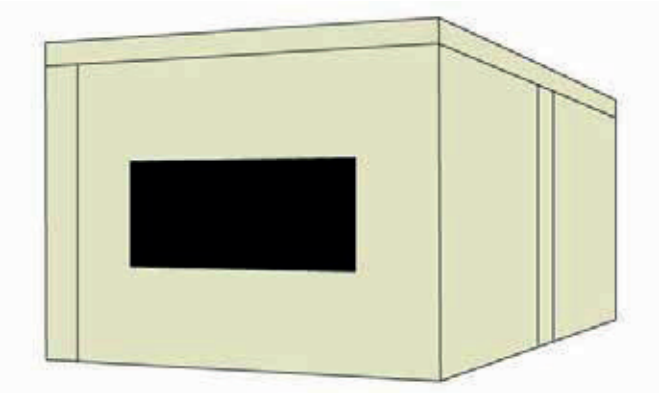


Rather cleverly the OptiClimate System can be adjusted to account for the shape of your grow room. The standard set up suits a wide area but the air outlet is actually re-positionable, allowing you to move it to the short side of the unit if you have a narrow space.

In terms of the ducting, keep everything as big as possible (i.e. don't reduce the 250mm/10 inch spigot size) and as short as possible. Remember long lengths of ducting and bends will reduce the efficiency of your airflow. Run the ducting down through the middle of your lights and pierce small holes into it for the air to escape, thereby ensuring all areas of your room benefit from the cooling effects.

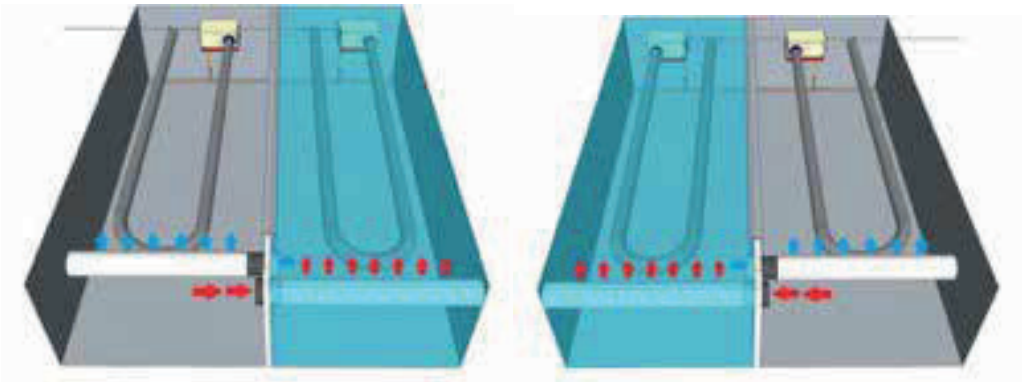
You then just need to make a small number of electrical connections within the OptiClimate System (these are thoroughly explained in the instructions), before plumbing and wiring in the unit to your water and electrical supply respectively.

Taking the remote control, enter in details of the desired minimum temperature (night) and maximum temperature (day), update the standard settings (e.g. time), configure the timer and activate the special functions you want to run. Afterwards you'll want to check the status screen and Alarm Log every now and again to monitor how things are progressing.

1+1=3 SYSTEM

Thanks to the innovative 1 + 1 = 3 System more wattage can be cooled with two relatively smaller OptiClimates. The heaters in the OptiClimates can be switched off. This is the most efficient system in terms of power and water consumption.

Due to the heating, the temperature in room 2 increases. Activating the 'cool at night' function in the OptiClimate menu will prevent the temperature in room 2 from rising too much. The cooler air from room 2 will be blown back with the same capacity to room 1 where the lights are on, in order to maintain the desired temperature in that room as well. After a light period of e.g. 12 hours, the light in room 2 will be turned off and the lights in room 1 will be turned on. The same process occurs as described above but in reverse.



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Models

There are currently 4 different versions of the OptiClimate System available:

OptiClimate 2000 PRO 3 en PRO 4
OptiClimate 3500 PRO 3 en PRO 4
OptiClimate 6000 PRO 3 en PRO 4
OptiClimate 10000 PRO 3 en PRO 4
OptiClimate 15000 PRO 3 en PRO 4
OptiClimate 15000 PRO 3 S en PRO 4 S

Of each model there's also an air-cooled version available with outdoor unit (Split Unit) as well as an Extended Reach model. Please contact us for more information about these air-cooled models.

Each model is supplied with a magnetic valve, a water leakage sensor, an automatic moisture meter, a remote control, a room temperature sensor and a carbon filter.

You will need the following items to get it operational:

- 16mm Pipework:
  required for transporting the cold water from your source to the inlet, and for transporting the hot water from the outlet to the drain or storage tank (15mm pipework connections are standard on the OptiClimate System but we recommend using a reducer on 16mm pipework because this proves easier to find and buy).

- 13mm Pipework:
  required for taking away the water collected from the condensation drain.

We also recommend investing in a small selection of helpful accessories:

- Anti-Vibration Springs:
  4 are required, 1 for underneath each corner of your OptiClimate System. These stop the unit from shaking and creating noise, and also ensure the condensation drain works as intended.

- Plenumbox:
  this connects to the air outlet of your OptiClimate System, enabling you to more easily attach ducting to it.

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To go on and properly establish a 'closed loop' room, you should set up these items:

- CO2 Generator:
  required for boosting the overall amount of carbon dioxide in the grow room. With no active air intake, a rich source of carbon dioxide is needed to allow plants to carry out the all-important process of photosynthesis. We have Natural Gas (NG) or Propane (LPG) models available.

- CO2 Controller:
  required for monitoring the carbon dioxide being introduced into the grow room. It will switch on/off the supply depending on the present conditions.
  We recommend choosing the superb DimLux Maxi Controller.

- Professional Humidifier:
  plants demand different levels of humidity as they progress through the growth cycle – one of these units enables you to precisely tailor the amount of water vapour in the air at any given time.

For rooms containing an OptiClimate System and humidifier, you absolutely have to feed the latter with RO Water or else the warranty is voided. Either install a Reverse Osmosis System or use a Condensation

Pump to recover the RO water dehumidified by the OptiClimate System and then direct it to the reservoir serving the humidifier.
The next step in transforming a grow room into the ultimate 'closed loop' set up involves upgrading your ballasts to DimLux!