

# Differences between the OptiClimate PRO3 and PRO4

The dehumidification functions of all other (water-cooled) air conditioning systems on the market work based on cooling. During cooling, the air is dehumidified, which is a natural phenomenon. If there is little warmth in the air, the required temperature is quickly reached and the air conditioning discontinues cooling and dehumidifying. This keeps atmospheric humidity high.

Compared to its competitors, the OptiClimate has the unique property of being able to dehumidify even after the desired temperature has been reached.



## PRO3 day mode:

The unit cools and dehumidifies the air. If the unit stops cooling, for example by overcapacity (the set temperature is reached) dehumidification will stop. The humidity will therefore rise for the period the unit doesn't need to cool.

## PRO4 day mode:

The OptiClimate PRO4 can also dehumidify when the set temperature is reached. This feature can be activated by setting menu D:32 on 1 (default is 0). When the desired temperature is reached, the unit will nevertheless continue to cool, but the heat that is normally emitted to the water will now be transferred to the air which comes out of the unit (the heat is recycled). As a result, there won't be any water consumed at that time. The dehumidification is not regulated by the hygostat but via setting menu D:32 on or off. The unit shall dehumidify at its max without taking account of the hygostat.

In the case of the PRO4 it therefore doesn't matter if the unit has overcapacity because it will continue to dehumidify in day mode even when the set temperature is reached.



## PRO3 night mode:

The unit will cool to dehumidify if the set value at the hygostat is reached. The cooling is partly offset by the electric heating elements in the unit. During dehumidification water is consumed + electric power for the heaters is used.

## PRO4 night mode:

At night the OptiClimate PRO4 will also cool to dehumidify if the set value at the hygostat is reached. However, the heat is not released into the water but is being transferred to the air that comes out of the unit. Therefore during dehumidification no water is consumed. The electric heating elements won't be activated because the heat is recycled. During super dehumidification the unit will produce net heat, the outgoing air from the unit will be about 2-4C higher than the incoming air. This also ensures that the heating elements will be activated even less. Unless the minimum night temperature is achieved, for example because the outside temperature is very low, the heating will be activated.

However, there are electric heating elements in the PRO4. These will be activated during the night when no dehumidification is needed and if the night temperature drops below the set value. The PRO4 is efficient with water and electricity and has a much higher dehumidification capacity. However, the efficiency does not change the maximum water consumption per minute nor the maximum power consumption. However, the water and power consumption will decline because both sources are needed less frequently, and thus every day there will be less water and power consumed.