

## **Summary: Results Van Der Ende Airmix\***

### **The important principles for an investment in the Airmix are:**

- An even climate with small horizontal temperature differences. In practice, temperature differences of 5 °C are reduced to 0.3 °C. This contributes to the plant quality and in a quantitative way; to a higher production in places where it is normally colder.
- Energy savings by keeping the screen completely closed for a longer period. Up to 20% energy savings can be achieved in an unlighted cultivation with a single screen, this is a precept based on practical experience.<sup>1</sup> The climate control must be applied correctly for a good result.
- Regulating the degree of humidity and / or temperature; comply with light emission legislation. Regulating the humidity results in the desired growing climate. In certain situations/ countries there are restrictions with regard to light emission. By applying Airmix, local light emission requirements can be met.

### **The Airmix system**

The Airmix is a system with mainly two function; the horizontal circulation of greenhouse air and the ventilation/ mixing with air from above the screen. The air from above the screen is dryer, it ensures dehumidification and the air from above the screen is cooler, it also provides cooling under the screen.

### **Even climate**

The Airmix is a controllable way of humidity removal through a closed screen. By keeping the screen closed, the wind has less influence and there are no unwanted cold air flows that result in huge temperature differences. From practical experience, feedback is given that horizontal temperature differences of less than 0.3 C° are achieved with the Airmix.

### **Energy savings**

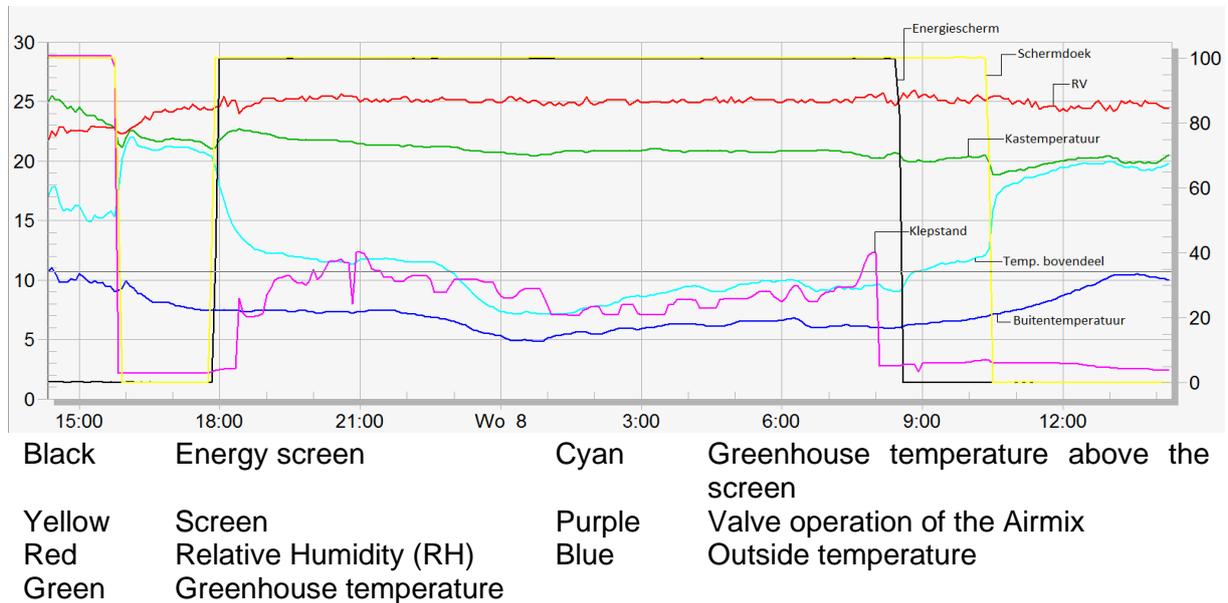
The energy saving by an Airmix system is not directly due to the Airmix itself, but by the way of screening. With an Airmix it is possible to make about 50% more screen hours by screening at the edges of the day. By keeping the screen closed, heat loss through radiation is limited.

### **Regulating the degree of Humidity and/ or temperature**

Due to the modulating valves in the Airmix, the degree of dehumidification and cooling can be adjusted according to the needs. The air that is brought under the screen creates a slight overpressure, the same amount of greenhouse air is expelled upwards again by the (porous) screen.

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\* by Van Der Ende Groep – 200504\_rev04 Airmix results



### Cooling when shading (black-out)

Cooling when shading without a ventilation system causes challenges; the soil and substrate are still warm and deliver heat; by dissipating heat with screen gaps, temperature differences arise and unwanted light rays enter; RH quickly rises due to rapid cooling, which increases the risk of condensation. With the Airmix, outside air is distributed and brought into the cultivation area in a controlled manner, which contributes to the removal of moisture and cooling to the desired temperature.





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