

**Novarbo™**  
**Closed greenhouse**  
**- the future**



### Droplet curtain system

**Nozzle unit**  
(valve, nozzle body, filter, droplet former, droplet limiter)

## Novarbo™

**- Closed greenhouse climate management system enables the vents of the greenhouse to be kept closed**

The Novarbo-system absorbs the excess heat and moisture generated by the sun and the additional lighting and conveys them bound in water away from the greenhouse. The optimum temperature and humidity in the greenhouse enable the air vents to be kept closed. A closed greenhouse efficiently prevents the ingress of plant diseases and pest infections from outside air.

A higher carbon dioxide content can be applied in a closed greenhouse. Remarkable advantages are achieved by using additional lighting simultaneously. The added yield, established in the tests of research institutes and within professional farming, has been up to 40%. The Novarbo system also offers new opportunities for timing the crop by means of temperature control.

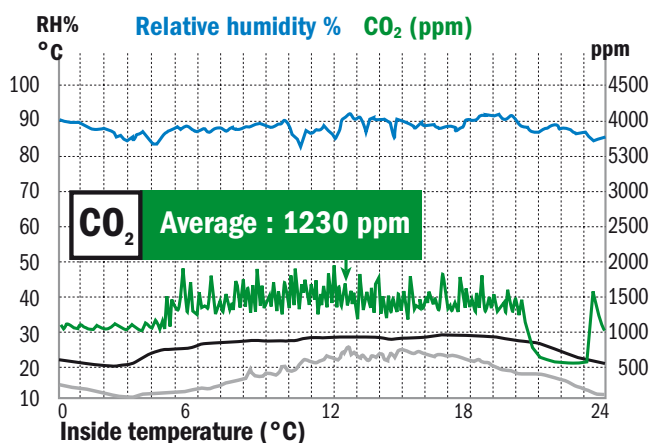
Two international patents are pending for the Novarbo greenhouse climate management system.

# Novarbo™ - Climate management system for a closed greenhouse. An opportunity for more profitable production!

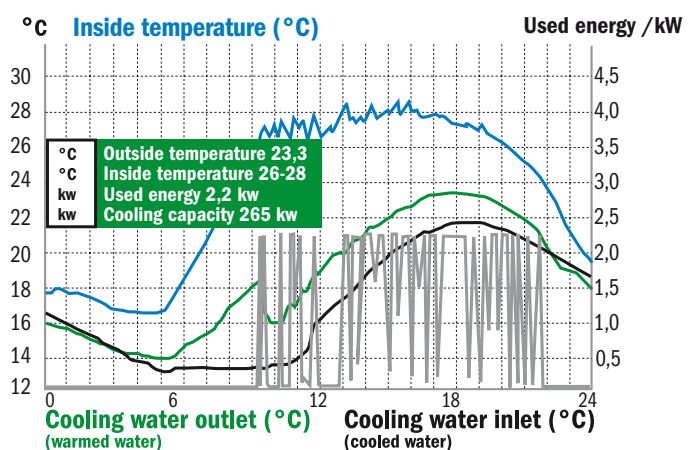
1. Bottom valve and filter for filtration of debris from the water.
2. Pumping unit and adjustment equipment for pumping the water into the greenhouse.
3. The Novarbo droplet curtain absorbs heat and moisture. One droplet curtain/ten meters of room width, space requirement in vertical direction about three metres.
4. The droplet separator unit collects the droplets and separates the water and the air flow from each other.
5. The water is returned to the cooling pool by means of the collecting system. Volume of water in the pool is 300 – 400 m<sup>3</sup>/1000 m<sup>2</sup> of greenhouse space.
6. The water is cooled in the pool by means of a propeller cooler, which evaporates heat. The propeller system operates independently according to the preset temperature.
7. The filtration unit keeps the water in the pool clean. As required, additional chemical disinfection can also be applied.
8. The droplet curtain creates a stream of air, which cools down the air in the greenhouse.
9. The greenhouse automation controls the Novarbo plant.

6.

Date: 14.07.2007



Date: 16.06.2007 Area: 500m<sup>2</sup>



- The Novarbo system can be installed in greenhouses equipped with any kind of automation
- The system is suited to many different applications
- The vertical position of the unit can be selected individually for each greenhouse and plat to be grown



FOR FURTHER INFORMATION:

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