



ULTRAFILTRATION

**YOUR WATER QUALITY
IS OUR PRIORITY**



So, what is ultrafiltration anyway?

Ultrafiltration is a membrane technology designed to remove organic contaminants from water. It has been an often-used technology throughout the world for many years for drinking water production and as pre-treatment for reverse osmosis. This technology filters out all particles larger than 0.02 micron and has been tested for the removal of 100% of nematodes and fungi, 99.999999% of bacteria and 99.999% of all viruses. As a result the 'NTU', the water's turbidity, often is less than 0.03, ideal for keeping the piping and drip piping behind the system clean.

The benefits of ultrafiltration

- Purifies water better than other techniques
- Highly energy efficient due to low water pressure
- Suitable for treating almost any type of water
- Easily scalable

Ultrafiltration in comparison to other techniques

The biggest advantage of ultrafiltration is that the purified water quality is many times better than that produced with other techniques. A UV installation kills 99.9% of bacteria and viruses, but cannot be applied in every situation. Similar rates also apply to heaters. This means that the effect of ultra-filtration is much higher in comparison to a UV installation or a heater. An additional benefit is that less or almost virtually no biofilm forms inside the pipelines. As a result organisms do not have a breeding ground that allows them to grow or regrow inside the piping. Other disinfection methods do not prevent this.

Another major benefit is low energy consumption. There is no gas consumption and the high electricity consumption associated with UV lamps is lacking. Energy consumption is often less than 0.2 kW/m³/h.

Furthermore, ultrafiltration combines well with the use of expensive nutrients, such as iron chelates. As a result of the clean product water, minimal dosing of chlorine or peroxide is sufficient to keep infection pressure behind the system under control. This is the reason why users are satisfied with their return on investment.

When to make use of ultrafiltration

Ultrafiltration can be applied in various ways. Sometimes as pre-treatment for reverse osmosis, but usually for the disinfection of drain water, as well as rainwater or surface water. In fact there are situations in which a singly ultrafiltration system is used to treat ten different types of drain water.

By treating not only the drain water, but all incoming water, infection pressure within the greenhouse stays low. After installing an ultrafiltration system, various microorganisms such as *Rhizobium rhizogenes* or the ToBRFV virus are no longer present.

Explore the world of water with us!

What makes Mienis ultrafiltration unique?

Mienis was the first company in the world to introduce ultrafiltration to the greenhouse sector. Since then we have gained a great deal of experience and have continued to develop our system into a product with a high level of user satisfaction.

Pre-filtration

Other ultrafiltration system suppliers often install a paper or belt filter ahead of their installation to pre-treat the water. Mienis does not do this: paper and belt filters are relatively expensive and the use of consumables is high. This significantly increases operating costs. In addition, the roll can run out, causing the system to come to a standstill. This is why Mienis has opted for fully automatic disc filters for pre-filtration, thus avoiding the need for consumables.

Automation

It is our vision that the only way to alleviate customers from any concerns is to develop an installation that operates fully automatically. The challenge is dealing with different types of contaminants. Mienis is the only company in the world that enables all systems to operate without any problems for any type of water. This is not only the result of many years of experience, but also of the in-house development of our own software. This way we are able to perfectly gear the process to any specific situation. We make use of frequency controlled pumps, sensors and valves for this purpose, all of which are A brands. The installation can be controlled remotely, without any unnecessary costs. This is one of the reasons why customers are enthusiastic about our excellent and fast service.

100% closed system

A 100% closed system is a claim that most suppliers are unable to realise. By contrast, Mienis is able to deliver on this claim. Our ultrafiltration systems have been providing 100% closed water management operations in the greenhouse sector for years.





Problems with sodium accumulation? We have a solution for that as well!

Undesirable sodium accumulation can be a problem in a 100% closed water management system. There are as yet no fully fledged systems capable of selectively removing sodium from water. Mienis has developed an innovative solution that in four steps comes very close to achieving this.

Step one is ultrafiltration that disinfects all of the drain and other incoming water. Next, with the aid of nanofiltration membranes we separate most nutrients from the sodium in the water. After that the water is routed through an ion exchanger that extracts nitrates, phosphates and other nutrients. In the last step, the concentrated sodium stream passes through reversed osmosis membranes. The latter operate at very high recovery rates, as a result of which a minimal quantity of sodium concentrated water remains.

***We go above and beyond
to help you with everything
water related!***



mienis-water.nl



Mienis Waterzuivering is an innovative family business, with a history dating back more than 150 years, that stands for high quality water treatment. The company currently is managed by the family's fourth generation. Our customers make grateful use of our knowledge and accumulated experience: we are one of the oldest specialists in reverse osmosis throughout the world and were first in successfully introducing ultrafiltration in the greenhouse sector in the Netherlands. Our innovative, sustainable and robust products are used by a range of diverse companies.



24/7 Service

Excellent service is a key focus for us.



Customer is King

Having excellent customer relationships is extremely important to us.



Top-quality products

We only make use of the very best brands.



A partner through thick and thin

We will always help you, even if the problems are not caused by us.
We solve them together.



A fair price

Although we exclusively use A brands, our prices remain competitive. Our customers tell us that the return on investment of our systems is two years or shorter.

