

CASE STORY

# WATER TREATMENT SYSTEM IN SOUTH KOREA INSTALLED 'VIRTUALLY'

Long summers with very little rain. This is a problem not only for Western Europe: South Korea too suffers from extreme drought in the summer months, resulting in a shortage of irrigation water for greenhouse horticulture. The problem became so urgent at a 10-hectare tomato growing business in the south of the country that the solution had to come from the other side of the world: a Van der Ende Group system that converts river water into irrigation water.

## PRODUCTS SUPPLIED:

- Hydrophore set
- Automatic self-cleaning screen filter
- Kathari ultrafiltration system
- Nexus RO system



South Korea is one of the upcoming markets in international horticulture, and Dutch horticultural technology is certainly not unknown there. A Korean installation engineer introduced himself to us at Greentech in 2017 and last year this contact suddenly took very concrete shape. One of his customers had been forced to switch to river water for irrigating his tomatoes. Not an ideal solution, because the sodium content of water from the river is too high. Right in the middle of the growing season, he needed a fast solution. And this solution was available in Maasdijk: a system with an automatic filter, ultrafiltration and reverse osmosis. The automatic filter removes all the large undissolved particles. Then the ultrafiltration technology ensures that none of the small undissolved particles – including bacteria and viruses – are left in the irrigation water. Finally, reverse osmosis guarantees that salts are removed, so that clean irrigation water is produced.

## COMPLETE SYSTEM FROM OUR ONE-STOP SHOP

On the basis of a water analysis and the required capacity (34 m<sup>3</sup>/h), our engineers set to work. This engineering covered the entire process: chemical, mechanical, electrical and software; a total package from our 'one-stop shop' in Maasdijk. We assembled the entire system here at our site, so that everything could be thoroughly tested. Two shipping containers were ready for the six-week journey to South Korea. And then the world was hit by the coronavirus.





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## **REMOTE CONNECTION DURING INSTALLATION**

It was simply not possible to send a supervisor to South Korea to oversee the installation and provide an explanation on-site. Fortunately the South Korean installation engineer has good technological skills and one of the company's employees had been to Maasdijk on a 'working visit' to study all the drawings in detail. We decided to facilitate the South Korean installation engineer as effectively as possible from here.

To achieve this aim, all the pipes and cables were numbered, and a remote connection allowed our own engineers to monitor in real time the installation process that was taking place some 8800 kilometres away. Questions were asked and answered in a group app for specialists in Maasdijk and South Korea. We even had virtual reality glasses to watch the work via VR while it was being performed on-site.

## **INSTALLED IN FIVE DAYS**

The South Koreans finished the job in just five days. Our engineers could see live that the sensors, pumps, valves, inputs and outputs were functioning correctly, with just a little fine-tuning needed here and there. Two days later, the first usable irrigation water was produced by the system, with no less than 99,7% of the salts filtered out. The recovery rate (percentage of clean water that remains) of 70% was also exceptionally high. Since then, we have continued to closely monitor the system via a special project website, where its performance is displayed in real time. We can also make minor adjustments via this website, such as purging times and other parameters. This means that in Maasdijk the yield is optimised and operating costs are minimised.

## **FOR ALL GROWERS'**

Ruud Schulte, water treatment project manager, says: 'The installation engineer was so pleased that he's going to recommend our system to his other customers as well. He's found that this solution works very much better than what local companies could make. And I also gave them a compliment in return: it was a fantastic achievement for a company with no previous experience in reverse osmosis.'

Remote installation can be an option if it's required by the circumstances, thinks Ruud. It already seems likely that the Van der Ende solution is going to be installed more often close to home: 'You can see that growers are increasingly facing water shortages in the summer. With reverse osmosis you can use water directly from a well, river water or



mains water to produce irrigation water.' Our concept can easily be configured for this on a modular basis, depending on the size of the horticultural business. This also makes it possible to supply clean water to multiple greenhouses with just one system.



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## **WE WILL BE GLAD TO HELP YOU**

Would you like to know more about our [water treatment solutions](#)?



Contact your installer.

Call with our specialists via +31 174 515 050.

Visit our website [www.vanderendegroup.com](http://www.vanderendegroup.com).