



NEW GENERATION

HETTICH BENELUX PLANT GROWTH CABINETS

- Up to 70% lower energy consumption
- Reproducible wide spectrum daylight LED
- Homogeneous & dimmable lighting
- Ebb & flow watering system **NEW**
- Light intensities up to 1100 μMol (4-colour LED available)
- Flexible shelving system, maximising growth height
- Minimal heat radiation on the plants
- Accurate climate control
- Constant current LED **NEW**
- Camera system **NEW**



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WHY USE A PLANT GROWTH CABINET

In a plant growth cabinet, it is possible to grow plants in a certain temperature, humidity and light intensity. This makes it possible to conduct reproducible research.

Today, more and more demands are being made, for example, how plants grow in an environment with more CO₂. This research focuses on the future to ensure that sufficient food can continue to be grown.

For example, another research is how plants grow in an environment with more salt. There are many other types of research for which a plant growth cabinet or room is very well suited.

That is why using a plant growth cabinet for your research is a good decision.



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PLANT GROWTH CABINETS

FROM FLUORESCENT TUBES TO LED

In the past the cabinets were equipped with fluorescent lamps. The spectral difference between a fluorescent tube and sunlight is huge. The sunlight spectrum is a gradual wave in which a number of colors are present. With fluorescent tubes, we see that the colors blue, green and red are strongly present.

Sunlight is never constant during the day and because it is important to get as close to this as possible, we chose to take an average of the daylight spectrum.

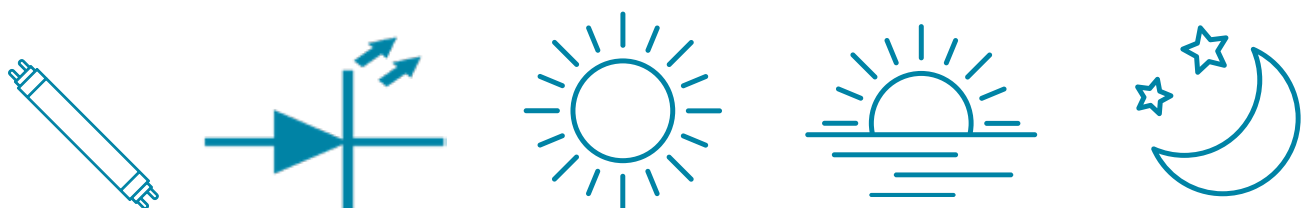
In 2012, research began on how we could improve the cabinets with LED. Important was improving the spectrum. The goal was to get as close as possible to the spectrum of sunlight with lighting that was as homogeneous as possible on the tray.

To better simulate the transition from day to night we added Far-red to the led plates. This to create a natural transition from day to night when the lights go out. The LED lighting is infinitely dimmable so that light intensity can be varied to do different research.

To achieve this, we worked with an LED manufacturer to see which LEDs would give the best results. This resulted in an in-house designed LED plate. This development was necessary because there were no standard LED solutions on the market to realize this.

By using our own designed plates, our cabinets already have a homogeneity of light 31 millimeters below the lights and no dark spots on the growing surface. The first design of the new cabinets with the LED lighting was tested by a renowned research institute in Germany. The results were very good; the plants grew better and were stronger than the plants growing under the fluorescent lights.

This convinced us so much that we started equipping all our cabinets with LED as a standard. Over the years we have continued to develop further and further. The most recent LED plates in our cabinets are specially designed for us and are constant current to reduce more energy. These new LEDs have the same daylight spectrum as before.



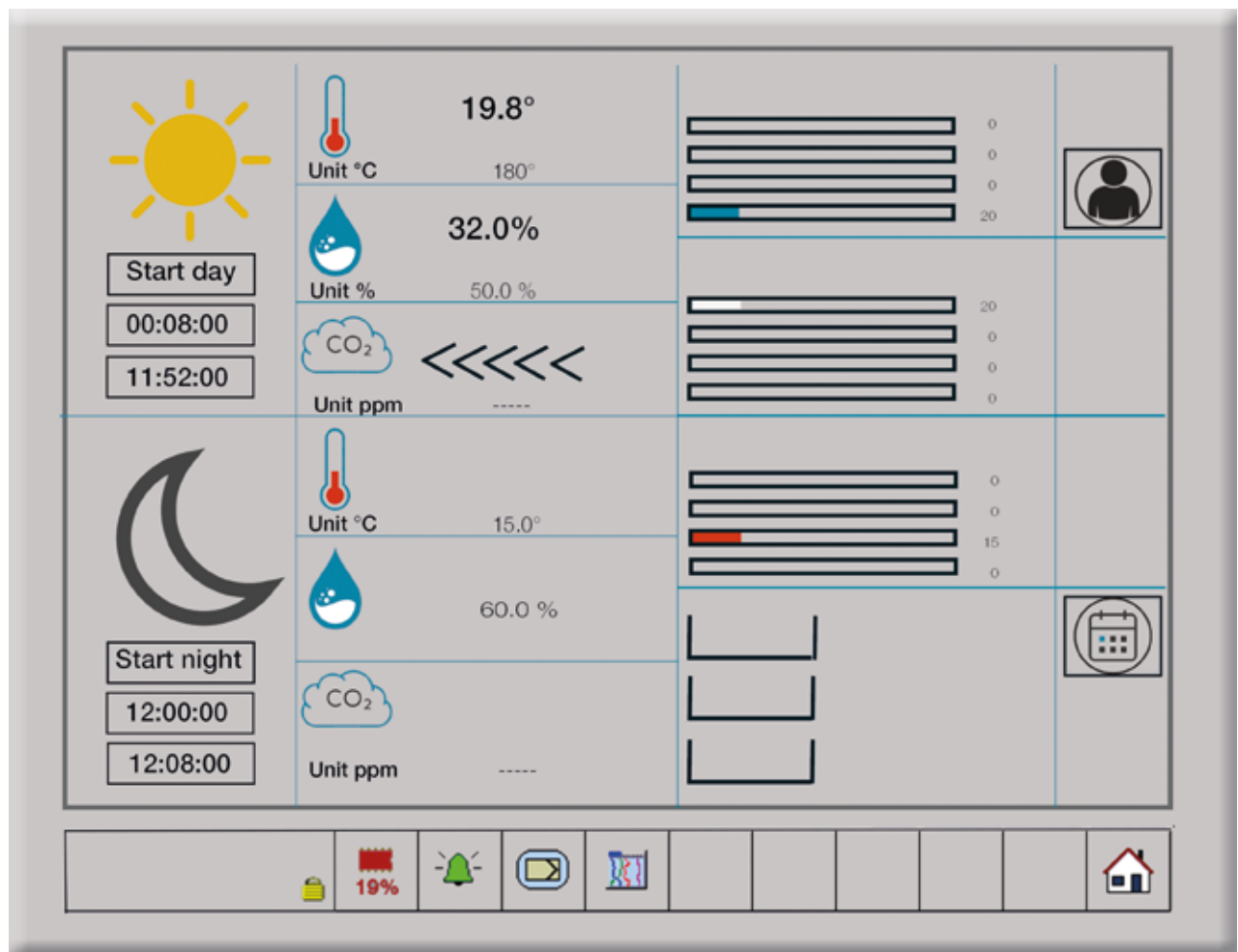
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INTUITIVE OPERATION WITH THE NEW TOUCHSCREEN

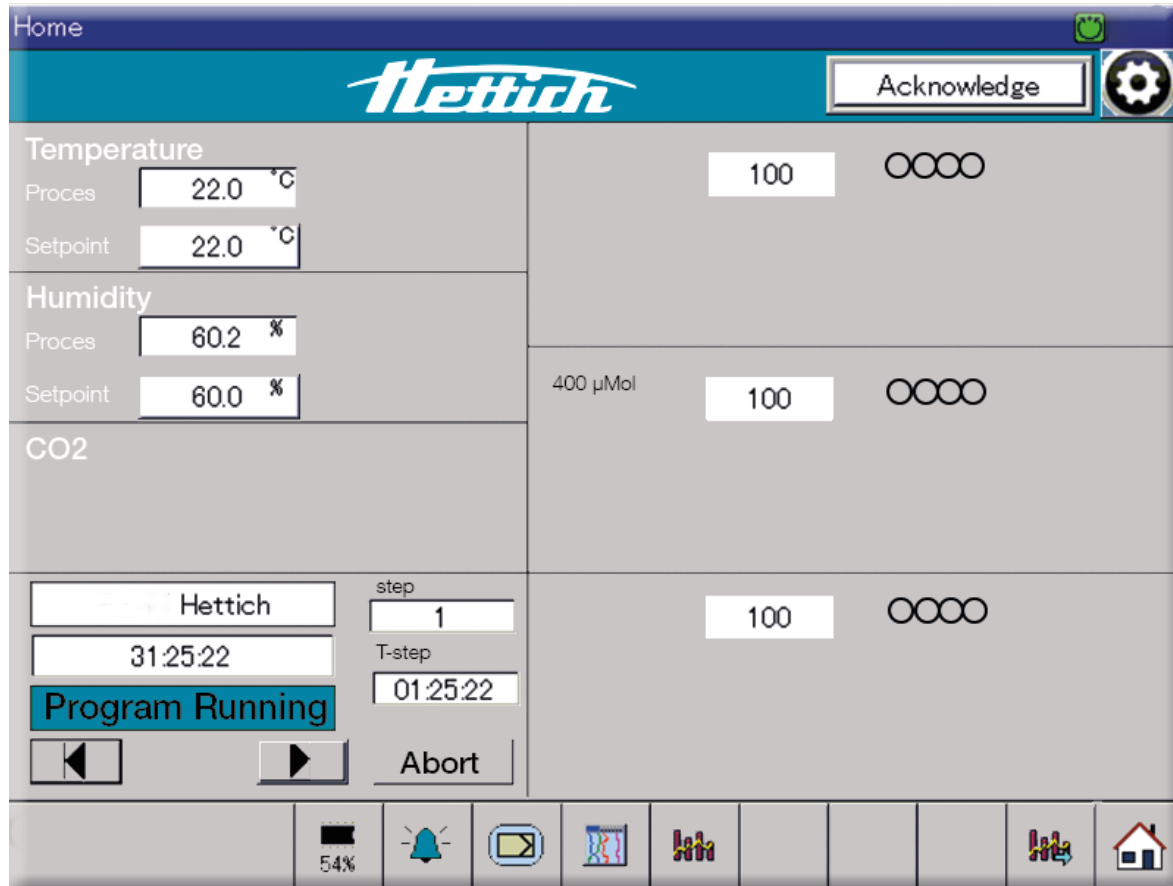
Get clear and concise information on your plant growth cabinet process, at a glance. With the new 8.4 inch touchscreen (PRC 1700/3200) and intuitive menu dashboard. You can easily view the status of the device as well as any alarms and events or trends in the past two months.

Any event or irregularity (such as door openings, tolerance band violations or power failures) are electronically documented in the logbook.

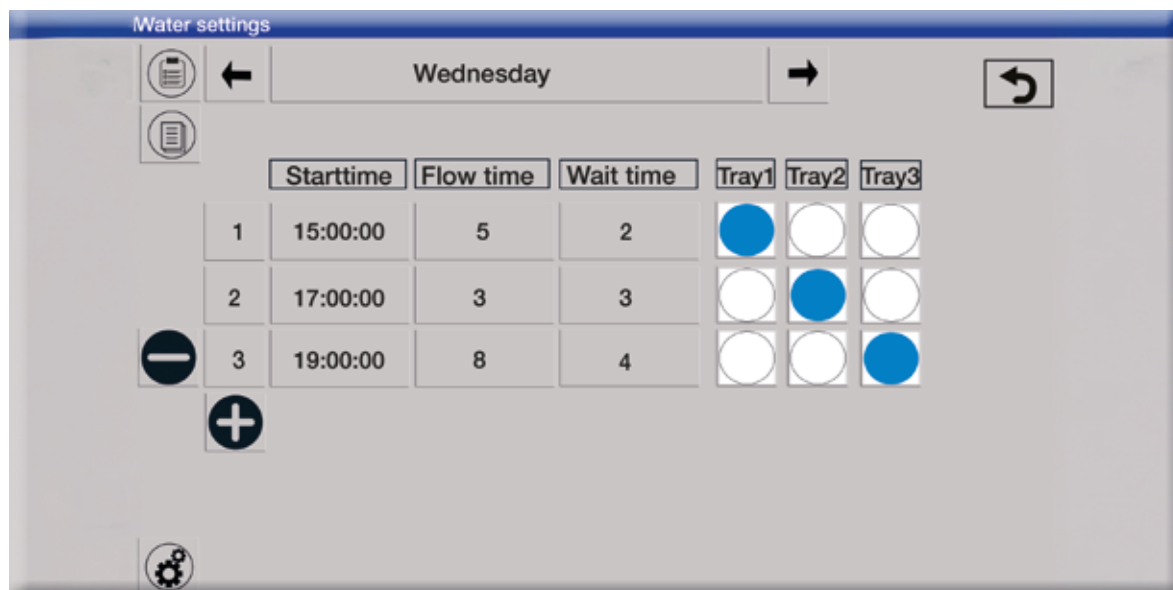


Easy 24 hour programming for i.e. day temperature, night temperature, rH and CO₂. Sunrise and sunset can be simulated.

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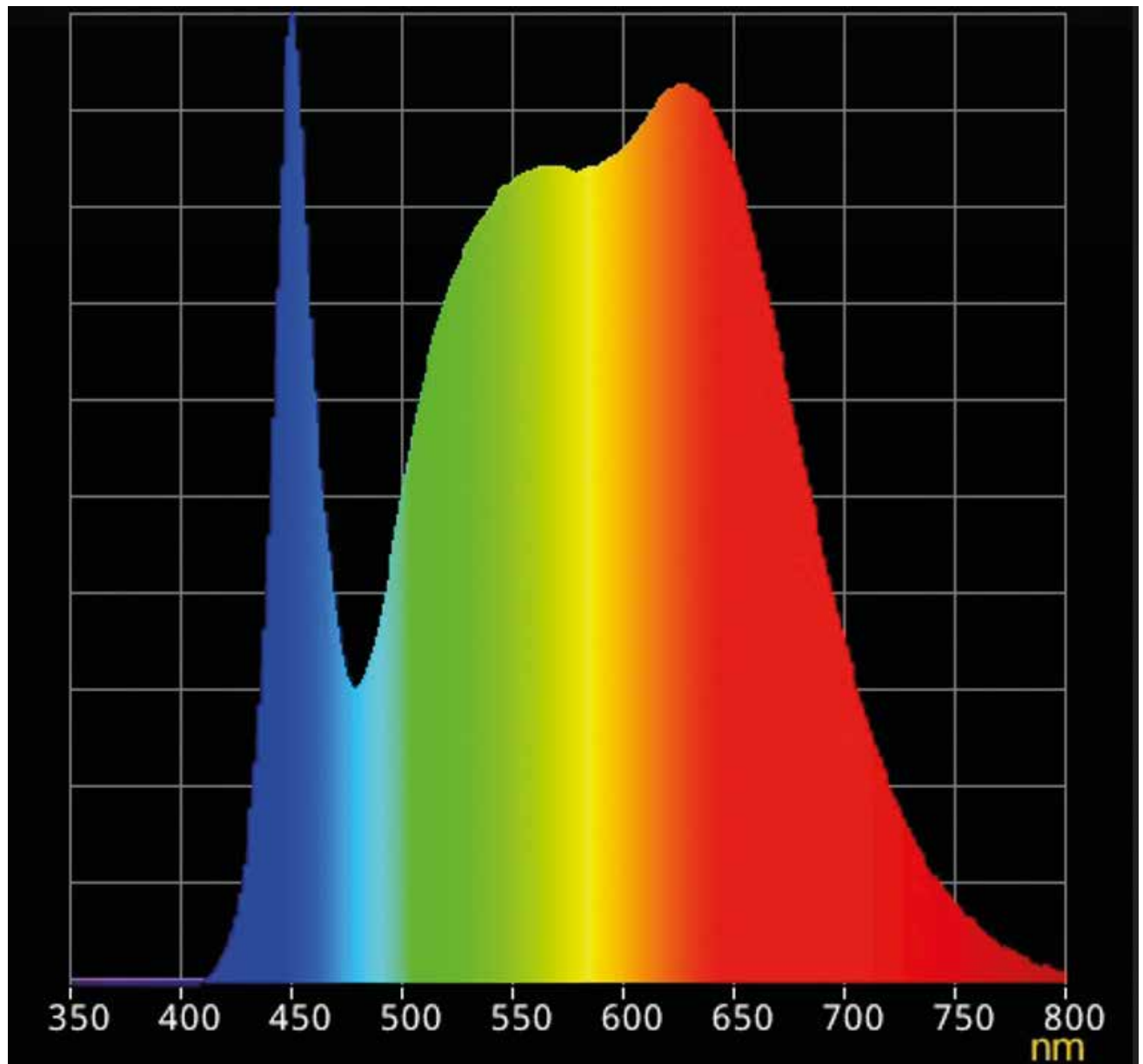


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YOUR PLANTS, OUR LIGHTS



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THE POSSIBILITIES & DIFFERENCES

	600 WL	1200 WL	1700 WL	3200 WL	1200 SL
Exterior dimensions w x d x h in mm	710 x 980 x 2025	905 x 1295 x 2050	2040 x 910 x 2030	3523 x 992 x 2014	910 x 1295 x 2050
Internal volume	575 litres	968 litres	1522 litres	3075 litres	968 litres
Growth area	1 m ²	1.65 m ²	2.34 m ²	4.68 m ²	9 m ²
Growth height at 3 layers	400 mm	400 mm	490 mm	490 mm	n.a.
LED in µmol**	200 - 1100	200 - 1100	200 - 1100	200 - 1100	200, 400
No. of shelves (max.)	3	3	3	6	15
Shelf area d x w in mm	625 x 530	875 x 625	600 x 1300	600 x 1300	875 x 625
Exterior	White				
Interior	Stainless steel white coated				
Extended height version			o	o	
Low temperature till -10 °C			o	o	
Door lock	x	x	o	o	x
Cooling system water cooled	o	o	x	x	o
Cooling system air cooled	x	x	o	o	x
Ultrasonic humidity system	o	o	o	o	o
Constant current LED	x	x	x	x	x
Ebb & flow system (Automatic watering system)			o	o	
Camera system	o	o	o	o	o
Web based access			o	o	
Cloud software	o	o	o	o	o
Four colour LED	o	o	o	o	
Energy consumption			1.06625 kWh/hr*		0.2883 kWh/hr*



o = optional

x = standard

* Conditions: 22 °C/60% rH, lights off

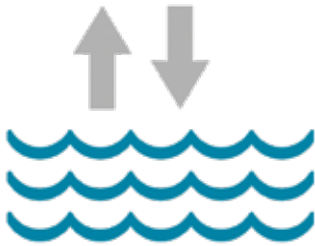
** Dimmable 10%

On request we can build customized versions.

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PLANT GROWTH CABINETS

SOME NEW FEATURES



Adding an automatic watering system (ebb and flow) is optional for our plant growth cabinets. With this system it is possible, to program watering per tray for an entire week with up to 5 possibilities per day. This can be done through the touch screen or remote (optional).



It is also possible to equip the cabinets with cameras so you can monitor the progress of the plants without opening the doors and disturbing the climate.



In addition to installing cameras in the cabinets, you can also use cloud software. This allows you to track the progress of your plants and see the performance of the cabinet, anywhere as long as you have Internet access. For this an annual fee is applicable.



Web-based access: this option allows you to select or start or stop a program from any location where you have access to the Internet.

Do you have a special requirement? Looking for a controlled environment room or trolleys?

Please let us know and together we will try to find the best solution for you.

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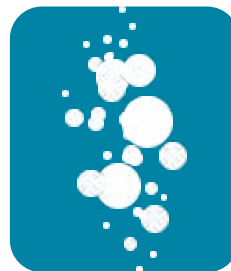
PLANT GROWTH CABINETS

OPTIONAL: HYDROPONIC SYSTEM

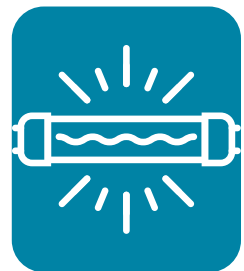
This hydroponic system is designed to prepare conditioned feed water distributed through separate outlets to plant growth containers. The system contains 800 liters of water circulated through an in-line filtration system, six manifolds with flow controllers and a nutrient dosing system. The nutrient dosing system continuously measures EC and pH and adds nutrient reagents A, B, C and pH correction reagents as needed.

An aeration pump and UV light in the main tank fully oxygenate the water and disinfect the nutrient water. The supply of nutrient water to each grow tray can be set from 0 to 180 liters per hour.

The system can be used as a stand-alone or in combination with our PRC 1700 plant growth cabinet. If used in conjunction with our PRC 1700, each tray has 60 holes for plant pots that can be covered with a lid when not in use. The main and overflow drains are both adjustable in height to set the desired water level and prevent water from overflowing into the cabinet. Behind each cabinet is a return tank that collects water from the plant cabinet and periodically empties the return tank into the hydroponic main unit. Optical level sensors in the main and return tanks alert the user via the display on the hydroponic system.



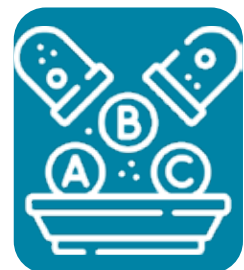
Aeration



UV-C



pH pump



Nutrients

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MORE ABOUT HETTICH BENELUX & SUBSIDIARIES

For more than 78 years Hettich Benelux has been manufacturing and selling laboratory and climate equipment worldwide. Since 1988 Hettich Benelux has been part of the German Hettich Group; a leading manufacturer of laboratory centrifuges & incubators.

The name Hettich Benelux exists only since 2011 but the joint experience and expertise of Dépex and Elbanton are still present within the company.

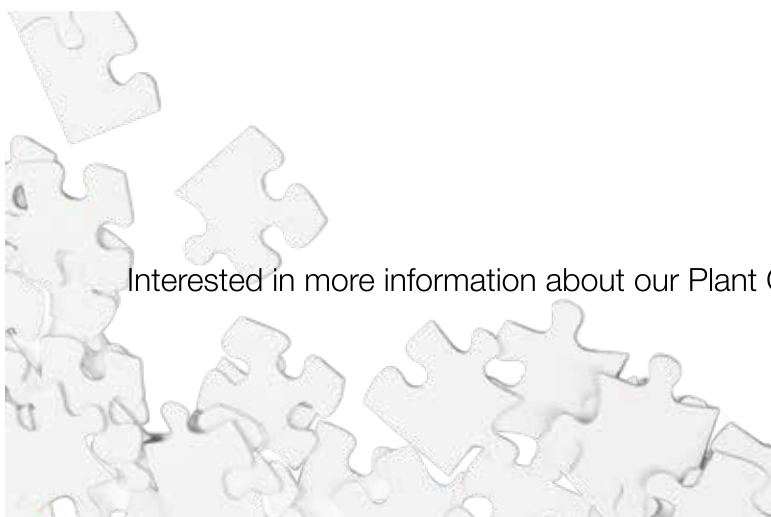
Hettich Benelux makes equipment where the reliability of temperature control, humidity and gases is important. The possibilities are enormous, as long as the elements climate and temperature play a role.

Often we customize the equipment for the customer. Our standard and custom equipment are sold worldwide under our own name but also under the previous name Elbanton Special Products.

The developments in the laboratory industry follow each other rapidly and the requirements which the equipment has to meet are becoming more and more stringent. Hettich Benelux ensures that its products continue to meet the changing requirements and are suitable for the medical, agro, food, pharma and life science industries.

Below the contact details of our subsidiaries. For our own contact details, see last page.

Switzerland	France	U.S.A.	Asia	Germany
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Interested in more information about our Plant Growth Cabinets?
Watch our video



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SERVICE TEAM

Hettich Benelux has its own service team that is responsible for the installation and maintenance of all equipment supplied by us.

- Installation
- Preventive maintenance
- Corrective maintenance
- Calibration / Validation
- Cleanroom VCCN certified
- IQ / OQ
- Instructional training/maintenance instructions for your own technical department.



Maintenance is carried out using established (multi-year) maintenance protocols. This means that it is always clear to you and us which parts have been or will be replaced. These protocols are stored by us by serial number so that the history is always known.

One of the advantages of taking out a service agreement with Hettich Benelux is that you receive a discount on parts that need to be replaced during preventive maintenance. And if there is a malfunction with one of your devices, you will be given priority in our planning.





OTHER PRODUCT GROUPS:

Customization

Incubators

Centrifuges

Climate Cabinets

Cooling

Freezing

Ovens

Sterilisers

Baths

Flow Cabinets

Glassware Washers

Sample Preparation

Shakers

Analysis

Monitoring