



weisstechnik[®]
a schunk company

fitotron
SGC insect and plant
growth chamber.

www.weiss-technik.com

Ensure uniform growth conditions.

Our new growth chambers with their smart ventilation concept ensure reproduceable, uniform conditions and the maximum growth height - with optional remote monitoring via webcam.



Stable and reproducible conditions.

Laboratories and biological research institutes use growth chambers to ensure consistent plant growth and insect rearing throughout the year. They can simulate almost all climatic conditions with a high degree of precision. They have to be energy-efficient, versatile and offer the highest possible height of growth. Just as important are simple programming, flexible monitoring and versatile network options.

The new standard on the market.

Our new fitotron SGC insect and plant growing chambers set new standards on the market with their growth height, fitosafe air guiding and their control and connectivity options. The newly designed chambers are available in three sizes and are optimally adapted to everyday project requirements in laboratories and institutes. One particular highlight is the optionally available webcam for a web-based monitoring of the growth area.

For laboratories and research facilities.

fitotron SGC
SGC insect and plant growing chambers.

Ensure uniform conditions.

fitotron SGC insect and plant growing chambers ensure constant conditions by controlling temperature, humidity, lighting and ventilation. The touch control panel is ergonomically positioned at an optimum height and can be easily used to program the growth chambers. They are configured with the user-friendly WEBSeason® Bio interface.

Wide range of applications.

The robust and laboratory-compatible growth chambers offer a maximum growth height of 133 cm and can be configured with up to four tiers of lighting for arabidopsis. They are available with one, two or three doors. In addition to the very well-equipped standard configuration, there are numerous additional options such as the integrated webcam for remote monitoring of the growing area.

Reliable partner for plant growth.

We have been the partner of many different laboratories and research facilities for many years. Our growing chambers have been developed to meet the needs of plants and insects, and they meet or exceed the needs of our customers from the initial consultation through to after-sales service. With our own software solutions, we as a system provider ensure optimal connectivity and longevity for the growth chambers.



Highlights at a glance:

- Maximum growth height: 133 cm, e.g. up to 4 light racks for arabidopsis
- WEBSeason® Bio interface for easy networking and multi-user control
- Integrated webcam for convenient remote monitoring via smartphone or PC (optional)

Extensive set of standard features.

fitotron SGC insect and plant growth chambers set new standards.



You can find more details of features in our technical specifications. Get in touch with us.

Interior



- **Maximum growth height**

With a growth height of 133 cm and a very constant climate throughout the entire growth area, SGC chambers are suitable for up to four racks with arabidopsis, or alternatively for particularly tall plants without the risk of burns caused by the lamps.

- **Web-based access and multi-user control**

WEBSeason® Bio allows four additional users access at the same time. The network connection can be used to control and monitor the growing chambers externally, for example via PC, tablet or smartphone. In addition, WEBSeason® Bio can be opened remotely.



- **Optimal fitosafe air guiding**

The adjustable and plant-specific air speed ensures uniform transpiration and good CO₂ and O₂ exchange. The combination of four fresh air exchanges per hour ensures optimal growing conditions without causing stress for the plants. Together with the contamination-free humidification, germ introduction is reliably prevented with deionised water.

- **Contamination-free humidification**

The growing chambers precisely maintain the set air humidity, regardless of the outside climatic conditions. The unique contamination-free humidification system evaporates demineralised water in a very precise manner using the integrated 19-litre tank or the house connection via an aluminium heating block. The powerful dehumidifier provides drier climates when required.

Settings & controls



- **User friendliness and ease of use**

The well-arranged 7" colour touch display is mounted at an ergonomically comfortable working height. In order to simplify programming and prevent operating errors, different languages can be selected.

Integrated webcam

A special highlight of the fitotron SGC insect and plant growing chambers is the optionally available webcam for a web-based remote monitoring of plants and insects.

Tailor-made growing climate.

Additional options for specific requirements.

Interior



- **Webcam for external monitoring**
The growing chamber can be fitted with a freely positionable webcam so that the plants viewed easily at all times. This allows for a quick visual inspection of the plants' condition, for example by smartphone or even from home.
- **Highly efficient fluorescent or LED lighting**
Lighting can be selected according to requirements. The external ballasts significantly reduce the heat load that has to be dissipated. This improves climate stability in the growing area and prolongs the service life of the ballasts. The WEBSeason® Bio controller is suitable for customer-specific LED systems with several channels.
- **Additional special solutions**
If required, a demineralisation unit, an extended humidification and dehumidification system, a water-cooled refrigeration unit or CO₂ supply controls can be integrated.
- **Insect screen**
Insects are often introduced into the growing area via substrates used for plant growth. There they are sucked into the air circulation, where they permanently contaminate the cooling circuit. Optional safety grids (insect screens) reliably prevent this source of contamination.

Exterior



- **External socket**
The optional external socket automatically switches off connected devices such as shakers when the chamber is switched off.



Illustration similar, may include options

Drying and storage:

For special requirements, such as seed drying and storage, the growing chambers are also available with particularly powerful compressed air dehumidification and corresponding sensors.

Cutting-edge software.

Multi-user control and optional webcam.

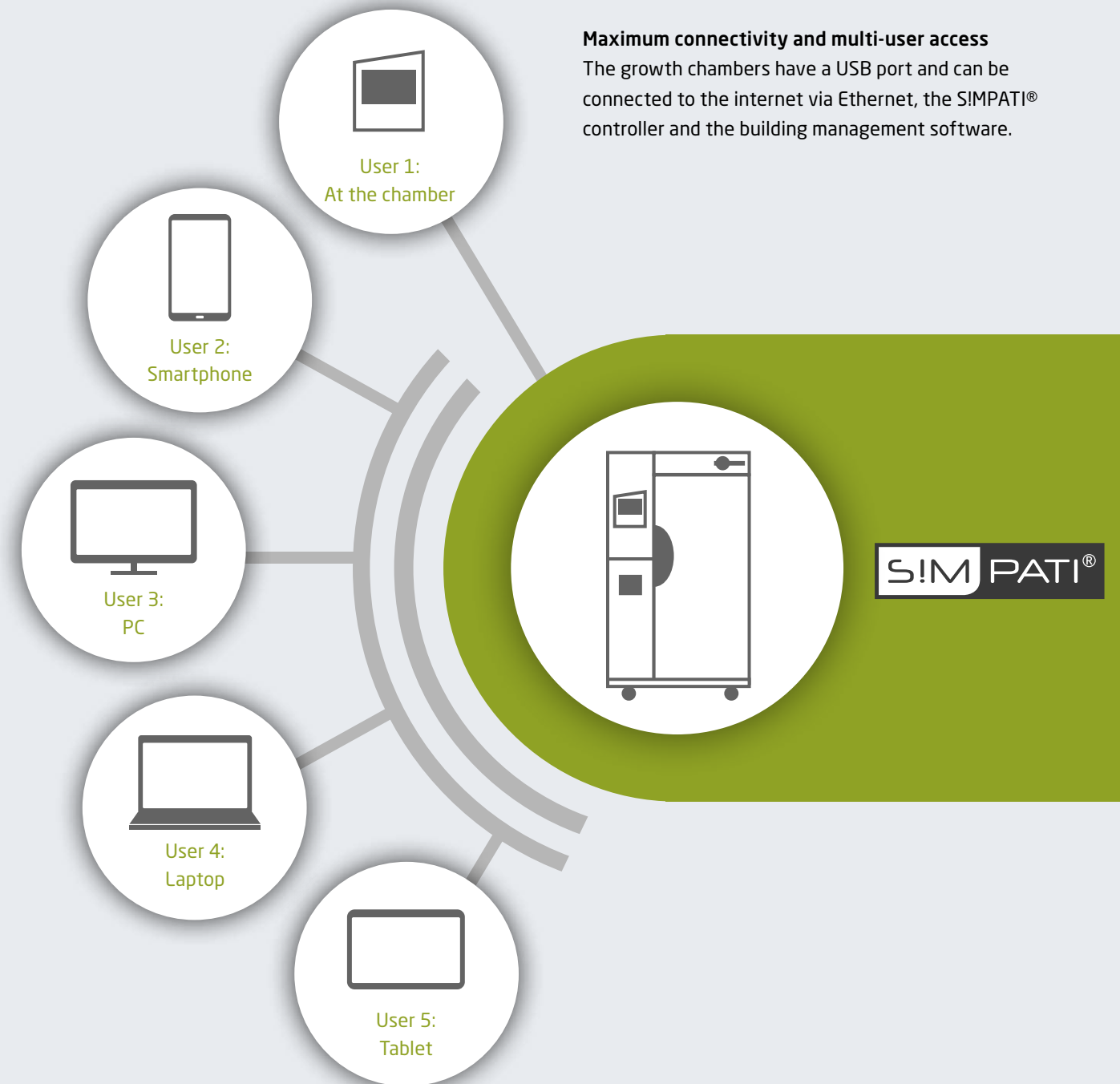
Settings & controls



- **Intelligent software**
The innovative and updatable control system of the growing chamber offers almost unlimited possibilities for research-oriented programming and control. Gradients for light, temperature, and humidity can be individually programmed. Additional control channels optionally allow for the integration and control of further customer-specific parameters. Optionally, several light channels can be controlled. In addition to programmable warning limits, more than 10 operating languages can be chosen from. The multi-user concept allows several users to have access at the same time, user rights are individually allocated.
- **SIMPATI® software and webcam**
Systems can be networked and processes can be easily and conveniently documented and evaluated with the SIMPATI® software specially developed by weisstechnik. The optional SIMPATI® modules also enable remote control and monitoring, automatic assignment of processes and parallel documentation of data and images provided by the optionally available webcam.

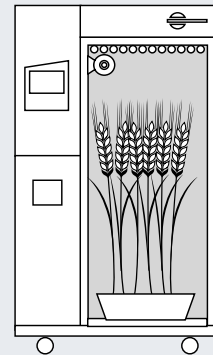


Maximum connectivity and multi-user access
The growth chambers have a USB port and can be connected to the internet via Ethernet, the SIMPATI® controller and the building management software.



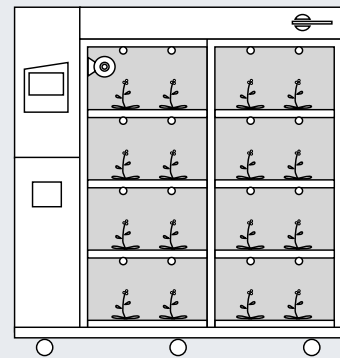
Typical use cases.

The new fitotron SGC insect rearing and plant growth chambers can be adapted according to requirements.



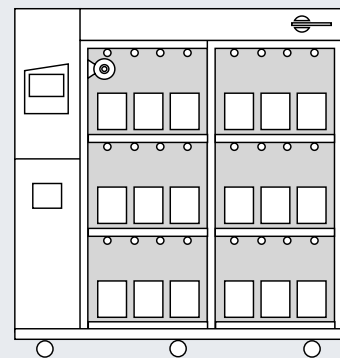
Large plants
fitotron SGC 1

Humidification/dehumidification
Lighting 12× 14 W FL
1 light rack included
Webcam



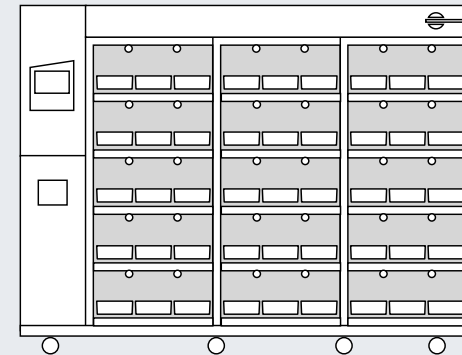
Arabidopsis
fitotron SGC 2

Humidification/dehumidification
2× lighting 4× (2× 8 W) LED
2× 4 light rack included
Webcam



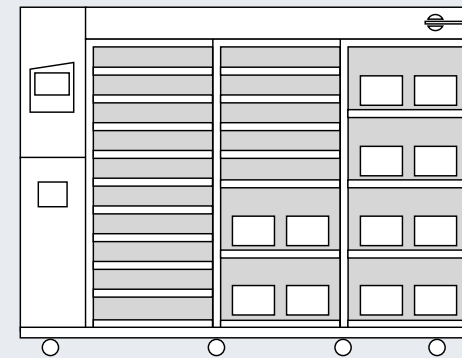
Insects
fitotron SGC 2

Humidification/dehumidification
2× lighting 3× (4× 14 W) FL
2× 3 light rack included
Stainless steel heat exchanger
Webcam



Tissue culture
fitotron SGC 3

Humidification/dehumidification
3× lighting 5× (2× 8 W) LED
3× 5 removable grids included
SIMPATI®



Seed drying/storage
fitotron SGC 3

Compressed air drying and sensor
1× 10 removable grids
1× 7 removable grids
1× 4 removable grids
SIMPATI®

Further highlights:

- Continuous, removable rack for clean working and easy cleaning
- Integrated water tank facilitates humidification when no water connection is available
- Ballasts for lamps outside of the growing chamber improve climate stability inside the growing chamber and prolong service life
- Flexible configuration: Type and number of light levels can be easily adapted and/or retrofitted by technical personnel
- Side-mounted technical equipment area allows for easy maintenance and integration of the control system at eye level

Impressive technology. Reliable results.

The performance data at a glance.

| Description | External dimensions, H x W x D | Interior dimensions, H x W x D | Temperature range, Light on/off | Temperature deviations, temporal ¹ | Temperature homogeneity, Spatial, light off ¹ | Humidity range, Light on/off ^{1,2} | Humidity deviations, temporal ¹ | Air speed, adjustable ¹ | Outside air exchange, adjustable | electric connection ³ |
|---|-----------------------------------|-----------------------------------|------------------------------------|--|--|--|---|---------------------------------------|-------------------------------------|-------------------------------------|
| | mm | mm | °C | K | K | % rF | % rF | m/s | VOL/h | |
| FITOTRON SGC DESIGN | | | LEISTUNGSDATEN | | | | | | | |
| fitotron SGC 1 (humidification/dehumidification) | 1992x1182x889 | 1486x621x626 | 10 - 45 on/ 4 - 45 off | +/- 0,2 | +/- 0,5 - 0,75 K | 15 - 80 on/ 20 - 95 off | +/- 1,5 | 0,05 - 0,6 adjustable 10 - 100% | 0 - 4 | 1/N/PE AC 230 V +/- 10% 50 Hz |
| fitotron SGC 1 (temperature version) ⁴ | 1992x1182x878 | " | | | | | | | | |
| fitotron SGC 2 (humidification/dehumidification) | 1992x1902x889 | 1486x1341x626 | | | | | | | | |
| fitotron SGC 2 (temperature version) ⁴ | 1992x1902x878 | " | | | | | | | | |
| fitotron SGC 3 (humidification/dehumidification) | 1992x2677x904 | 1486x2035x634 | | | | | | | | |
| fitotron SGC 3 (temperature version) ⁴ | 1992x2677x878 | " | | | | | | | | |

1: measured in empty chamber with 1 light shelf, acc. to IEC 60068-3-5, 0.3 m/s air speed; number of shelf levels and plants may cause to deviations

2: low humidities are achieved with optional extended dehumidification system

3: other voltages and frequencies on request; for UK: 13 A for SGC 1 & SGC 2, 16 A for SGC 3

4: also applies to versions for seed drying/storage

| Lighting* | Fluorescent tubes | Intensity** | Maximum growth height | Growth area per door | dimnable |
|---------------------------------|-------------------|-------------------------|-----------------------|----------------------|------------|
| | max. | μmol/(m ² s) | mm | m ² | % |
| Fluorescent tubes (14 W) | | | | | |
| 1 Light shelf per door | 1 x 12 FL | 825 | 1335 | 0,33 | 10 - 100 % |
| 2 Light shelves per door | 2 x 6 FL | 345 | 636 | 0,66 | |
| 3 Light shelves per door | 3 x 4 FL | 265 | 403 | 0,99 | |
| 4 Light shelves per door | 4 x 2 FL | 131 | 263 - 286 | 1,32 | |
| 5 Light shelves per door | 5 x 2 FL | 131 | 216 | 1,65 | |

* Light shelves incl. removable racks

** Maximum intensity at 150 mm distance, 25 °C, measurement with calibrated Skye SpectroSense 2 and PAR sensor

| Lighting* | LED | Intensity** | Maximum growth height | Growth area per door | dimnable |
|--------------------------|------------|-------------------------|-----------------------|----------------------|----------|
| | max. | μmol/(m ² s) | mm | m ² | % |
| LED (8 W) | | | | | |
| 1 Light shelf per door | 1 x 12 LED | 920 | 1335 | 0,33 | - |
| 2 Light shelves per door | 2 x 6 LED | 465 | 636 | 0,66 | |
| 3 Light shelves per door | 3 x 4 LED | 390 | 403 | 0,99 | |
| 4 Light shelves per door | 4 x 2 LED | 220 | 286 | 1,32 | |
| 5 Light shelves per door | 5 x 2 LED | 220 | 216 | 1,65 | |

* Light shelves incl. removable racks

** Maximum intensity at 150 mm distance, 25 °C, measurement with calibrated Skye SpectroSense 2 and PAR sensor
Other/customised LED versions on request (e.g. Valoya, etc.)

Be more efficient!

You save time and money with our solutions.

Get the best out of your test equipment.



Design your own perfect process with the SIMPATI® software package.

Process control/documentation/networking

- Up to 99 systems can be networked
- Program for automated processes
- Documentation, visualisation and managing process data
- Traceability of the process data for an end-to-end proof of quality

Would you like a little bit more?

Air-conditioning solutions for specific requirements.

Wherever there are very particular climatic requirements, people around the world rely on **weisstechnik** expertise. We develop customised solutions for industry, development, research and medicine - from initial planning to after-sales service and always on the bedrock of long-standing experience and matured technology.

You too can benefit - get in touch with us!

Further information at:

www.weiss-technik.com



We measure ourselves by our service!

Our services - lots of good benefits:

- Global service network
- Wide range of preventive maintenance services
- Secure spare parts supply
- Special service operations available at all times
- Proper disposal of your old units with verification

A **weisstechnik** specialist is never far away!

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weisstechnik

Test it. Heat it. Cool it.



Environmental Simulation

The first choice for engineers and researchers for innovative, safe environmental simulation facilities. In fast motion, our test systems can simulate all the influences in the world as well as for instance in space. In temperature, climate, corrosion, dust or combined stress tests. With a very high degree of reproducibility and precision.



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Experienced engineers and designers develop, plan and produce high-quality, reliable heat technology systems for a broad range of applications from heating and drying cabinets to microwave systems and industrial furnaces.



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As the leading provider of clean rooms, climate technology and air dehumidification, we consistently ensure optimal climatic conditions for people and machines. For industrial production processes, in hospitals, mobile operation tents or in the field of information and telecommunications technology. From project planning to implementation.



Climate Technology, Air Dehumidification, Clean Rooms

With decades of experience and know-how, we guarantee the most sophisticated clean air and containment solutions. Our comprehensive and innovative range of products includes barrier systems, laminar flow systems, safety workbenches, isolators and airlocks.

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