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.

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.

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.

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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.
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.

**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.

- **Intelligent software**
  The innovative and updateable 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.

- **S!MPATI® software and webcam**
  Systems can be networked and processes can be easily and conveniently documented and evaluated with the S!MPATI® software specially developed by weisstechnik. The optional S!MPATI® 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 S!MPATI® 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
  - Lighting 5× (2× 8 W) LED
  - 3× 5 removable grids included
  - S!MPATI®

**Seed drying/storage**
- fitotron SGC 3
  - Compressed air drying and sensor
  - 1× 10 removable grids
  - 1× 7 removable grids
  - 1× 4 removable grids
  - S!MPATI®

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.

<table>
<thead>
<tr>
<th>Description</th>
<th>External dimensions, H × W × D</th>
<th>Interior dimensions, H × W × D</th>
<th>Temperature range, Light on</th>
<th>Temperature deviations, Light on</th>
<th>Humidity range, Light on</th>
<th>Humidity deviations, Light on</th>
<th>Air speed, adjustable</th>
<th>Outside air exchange, adjustable</th>
<th>Electric connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>FITOTRON SGC DESIGN</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fitotron SGC 1 (humidity/dehumidification)</td>
<td>1992x1182x889</td>
<td>1486x621x626</td>
<td>10 - 45 on/4 - 45 off</td>
<td>+/- 0.2</td>
<td>0.05 - 0.75 K</td>
<td>+/- 1.5</td>
<td>0.05 - 0.6 adjustable 10 - 100%</td>
<td>0 - 4</td>
<td>1/N PE AC 230 V +/- 10% 50 Hz</td>
</tr>
<tr>
<td>fitotron SGC 1 (temperature version)*</td>
<td>1992x1182x878</td>
<td>*</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fitotron SGC 2 (humidity/dehumidification)</td>
<td>1992x1902x889</td>
<td>1486x1341x626</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>fitotron SGC 2 (temperature version)*</td>
<td>1992x1902x878</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>fitotron SGC 3 (humidity/dehumidification)</td>
<td>1992x2677x904</td>
<td>1486x2035x634</td>
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<tr>
<td>fitotron SGC 3 (temperature version)*</td>
<td>1992x2677x878</td>
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</tr>
</tbody>
</table>

1: measured in empty chamber with 1 light shelf, acc. to IEC 60068-3-5, 0.3 m/s air speed;
2: low humidities are achieved with optional extended dehumidification system;
3: number of shelf levels and plants may cause to deviations;
4: other voltages and frequencies on request; for UK: 13 A for SGC 1 & SGC 2, 16 A for SGC 3;
5: also applies to versions for seed drying/storage.

<table>
<thead>
<tr>
<th>Lighting*</th>
<th>Fluorescent tubes</th>
<th>Intensity**</th>
<th>Maximum growth height</th>
<th>Growth area per door</th>
<th>dimmable %</th>
</tr>
</thead>
<tbody>
<tr>
<td>max.</td>
<td>µmol/(m² s)</td>
<td>mm</td>
<td>m²</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Fluorescent tubes (14 W)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Light shelf per door</td>
<td>1 x 12 FL</td>
<td>825</td>
<td>1335</td>
<td>0.33</td>
<td></td>
</tr>
<tr>
<td>2 Light shelves per door</td>
<td>2 x 6 FL</td>
<td>345</td>
<td>636</td>
<td>0.66</td>
<td></td>
</tr>
<tr>
<td>3 Light shelves per door</td>
<td>3 x 4 FL</td>
<td>265</td>
<td>403</td>
<td>0.99</td>
<td></td>
</tr>
<tr>
<td>4 Light shelves per door</td>
<td>4 x 2 FL</td>
<td>131</td>
<td>263 - 286</td>
<td>1.32</td>
<td></td>
</tr>
<tr>
<td>5 Light shelves per door</td>
<td>5 x 2 FL</td>
<td>131</td>
<td>216</td>
<td>1.65</td>
<td></td>
</tr>
<tr>
<td>LED (8 W)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Light shelf per door</td>
<td>1 x 12 LED</td>
<td>920</td>
<td>1335</td>
<td>0.33</td>
<td></td>
</tr>
<tr>
<td>2 Light shelves per door</td>
<td>2 x 6 LED</td>
<td>465</td>
<td>636</td>
<td>0.66</td>
<td></td>
</tr>
<tr>
<td>3 Light shelves per door</td>
<td>3 x 4 LED</td>
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<td>4 Light shelves per door</td>
<td>4 x 2 LED</td>
<td>220</td>
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* Light shelves incl. removable racks
** Maximum intensity at 150 mm distance, 25 °C, measurement with calibrated Skye SpectroSense 2 and PAR sensor.

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** Maximum intensity at 150 mm distance, 25 °C, measurement with calibrated Skye SpectroSense 2 and PAR sensor.
Wherever there are very particular climatic requirements, people around the world rely on Weiss Technik 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.

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