

weisstechnik®

Test it. Heat it. Cool it.

Our solutions are deployed around the world in research, development, production and quality assurance of numerous products. Our experts from 21 companies are at your service in 14 countries, ready to provide support to ensure high operational reliability of your systems.

Weiss Umwelttechnik is one of the most innovative and significant manufacturers of environmental simulation systems. With these testing systems, we can simulate all climatic conditions around the globe and beyond, under accelerated conditions. Whether temperature, climate, corrosion, dust or combined shock testing: We have the proper solution. We supply systems in all sizes, from standard versions up to customised, process-integrated facilities - for high reproducibility and precise test results.

Weiss Technik UK, a subsidiary of Weiss Umwelttechnik, has been one of the leading global suppliers of plant growth chambers and rooms for more than 50 years. We can supply, install and support our products in virtually every country in the world. **fitotron®**, our premier product brand, ranges from standard chambers to custom solutions including applications in plant growth, Arabidopsis, tissue culture, seed germination and storage, entomology and other specialist storage and test. We have a particularly successful track record in managing large multi-room installation projects and in finding workable solutions for customer needs, whether that be in lighting, containment, airflow, shelving and racking, gas control or remote monitoring and control software.

Vötsch Industrietechnik, another subsidiary of Weiss Umwelttechnik, offers a wide product portfolio in the field of heating technology. With an experienced team of engineers and designers, we develop, plan and produce high-quality and reliable heating technology systems for virtually any field of application. Products include heating/drying ovens, clean room drying ovens, hot-air sterilisers, microwave systems and industrial ovens. The portfolio reaches from technologically sophisticated standard versions to customised solutions for individual production operations.

A further Weiss Technik company, Weiss Klimatechnik, also offers reliable climate solutions wherever people and machinery are challenged: in industrial production processes, hospitals, mobile operating tents or in the area of IT and telecommunications technology. As one of the leading providers of professional clean room and climate solutions, we deliver effective and energy-saving solutions. Our experts will guide you from the planning to the implementation of your projects.

Weiss Pharmatechnik, a subsidiary of Weiss Klimatechnik, is a competent provider of sophisticated clean room and containment solutions. The product range includes barrier systems, laminar flow facilities, security workbenches, isolators and double door systems. The company emerged from Weiss GWE and BDK Luft- und Reinraumtechnik and has decade-long experience in clean room technology.

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SGR Standard Growth Rooms



fitotron® SGR Standard Growth Rooms

fitotron® SGR Standard Growth Rooms offer high accuracy and reliability in the control of temperature, humidity and lighting, using state-of-the-art programmer technology and energy efficient lighting systems. This sustainable design offers the user a cost effective solution.

The fitotron® SGR Standard Growth Rooms Range has been specifically designed for user flexibility in size and application, providing an adaptable growth area suitable for any future changes of research needs.

We enable the researcher to maintain controlled growing conditions of temperature and humidity with individual selection of photoperiods.

The fitotron flexible shelving system allows to configure each model with single, two or three tier growing spaces. Total growing areas range from 1.4 m² to 24.5 m².

In addition to the five models shown in the table, we can provide size optimised options if space is tight.

Each individual growing space is equipped with a removable and height adjustable frame. The additional lighting units used to enable two- and three-tier growing are also removable and can be positioned in 150 mm increments. This results in a versatile fitotron® SGR Standard Growth Room capable of growing a variety of plant types and sizes.



Global Service and Support

The training undertaken by our agents and engineers is state-of-the-art in the industry, ensuring that our customers are supported by high-level technical expertise. Our customers can be assured that their equipment will perform to the required standard.

Options

- LED-lighting technology
- Water-cooled refrigeration
- CO₂ control
- Lower humidity reach extended to 40% RH with additional drying equipment
- Biological containment filtration

Room Specifications

Fitotron® Model ¹	SGR11x	SGR12x	SGR21x	SGR22x	SGR23x
Growth area (in m²)					
Single-tier (x=1)	1.36	2.72	2.72	5.44	8.16
Two-tier (x=2)	2.72	5.44	5.44	10.88	16.32
Three-tier (x=3)	4.08	8.16	8.16	16.32	24.48
Growth height² (maximum in mm)					
Single-tier	1980 (all models)				
Two-tier	800 (all models)				
Three-tier	500 (all models)				
Exterior (wxdxh in mm)					
	2210x 1960x 2865	2210x 3610x 2745	3110x 1960x 2865	3110x 3610x 2745	3110x 5260x 2865
Interior (wxd in mm)³	1950x1800	1950x3450	2750x1800	2750x3450	2750x5100
Temperature range:					
Lights off	+5 °C to +35 °C (all models)				
Lights on	+10 °C to +35 °C (all models)				
Temperature fluctuation with time	±0.5 °C (all models)				
Humidity range:					
Lights off	60% RH to 90% RH (all models) (40% RH to 90% RH as option)				
Lights on	55% RH to 85% RH (all models) (40% RH to 85% RH as option)				
Dewpoint range:					
Lights off	+8 °C to +28 °C (all models) (+6 °C to +28 °C as option)				
Lights on	+8 °C to +26 °C (all models) (+6 °C to +26 °C as option)				
Humidity fluctuation with time	±5% RH (all models)				
Maximum lighting intensity⁴					
Single-tier	700 µmol m ⁻² s ⁻¹ (all models)				
Two-tier	400 µmol m ⁻² s ⁻¹ (all models)				
Three-tier	250 µmol m ⁻² s ⁻¹ (all models)				
Electrical connection⁵	3 Ph/N/E 380 V-440 V 50 Hz (all models)				

¹Where 'x' = number of tiers (1, 2 or 3) ²With intermediate lighting equally spaced ³Width between plenum walls ⁴Measured at 300 mm from the lamps at 25 °C ⁵60 Hz also available, dependent on installation country

Humidification

Humidification is maintained by injection of sterile steam at ambient pressure, preventing harmful bacteria (including legionella) from entering the room, creating a safe working environment. The system benefits from extended periods between maintenance and does not require a compressed air supply.

Airflow

Airflow is horizontal to ensure even temperature across the multi-tiered growing surfaces. The conditioned air is delivered via plenum walls on each side of the room and returned to the air-handling unit at high level in the centre of the room. The airflow is delivered at a speed of 0.2 m s⁻¹ to 0.5 m s⁻¹ to ensure excellent temperature uniformity and avoiding stress to the plants.

