Safegrow PRO

CO_2 Incubator

The new BioAir SafeGrow PRO "Direct Heat" CO_2 incubator, equipped with an automatic decontamination cycle, it has been designed to offer a stabilized environment perfectly suited to cell and tissue cultures, taking into consideration the most sophisticated needs of those working in this area, both with continuous and batch cultures.
SafeGrow PRO accurately maintains the set CO_2 percentage, while ensuring uniformity of the temperature and the high level of humidity necessary for the stability of the environment, required for applicationsparticularly critical, as in IVF and in hybridoma cultures.

The best in its class, for the internal useful space and the large support surface

One of the strengths of SafeGrow PRO is represented by the large internal capacity of 188.6 lt, which translates into an effectively exploitable space of 140 lt (a value that leads to an effective capacity / space ratio that no other manufacturer can boast) thanks to the particular design of the rack and the 4-shelf system which ensures a support surface of 0.23 m2 for each shelf.

The best in its class, for optimal growing conditions

The accuracy and precision of the temperature are ensured by 4 direct, validated and independently controlled heating elements, positioned on the 6 sides of the chamber, capable of measuring and controlling the temperature with a difference of 0.1 degrees with respect to the fixed value. There
CO_2 percentage is accurately maintained by a latest generation IR sensor. The humidity remains constantly at 95% by means of a 2.5 lt stainless steel tray, heated by the element placed on the bottom. In addition, the unit is equipped with an "on-demand" programmable decontamination cycle that guarantees total safety.

Main features

- Direct heating system that allows to have large internal volumes with reduced external dimensions (External dimensions (WxHxD) mm 680 x 896 x 746)
- Internal chamber in electropolished AISI304 stainless steel
- No welds and rounded corners with a wide radius for better cleanability
- Shelf support system easily removable without equipment
- Stacking system to stack 2 incubators
- Solid or perforated shelves
- Standard decontamination cycle (125 °C for 4h)
- Passive air circulation without the need for filter systems
- Available with single internal glass door or with 4 independent sections
- Door opening to the left or right (cannot be changed after sale)
- IR independent humidity technology for CO_2 sensors
- CO_2 recovery time and rapid temperature (<5min)
- Passive humidification (water tank included in stainless steel)
- Internal log of the last 500 events viewable on the display
- Ability to export data via RS232 for connection to external monitoring and data logging systems (Optional: USB adapter)
- Standard cable gland hole for feeding equipment into the internal chamber or inserting additional sensors

TECHNICAL SPECIFICATIONS

TEMPERATURE

- Heating system Direct irradiation on 6 sides, 4 independent controls, 73 meters of heating elements
- Operating range 10 - 50 °C, from 1 °C above room temperature
- Measurement 7 RT Curved matched thermistors capable of detecting and controlling up to 0.01 °C
- Control +/- 0.1 °C
- Accuracy +/- 0.1 °C
- Uniformity Greater than +/- 0.3 °C
- Recovery time Within 5 minutes, after opening the door for 15 seconds
- Independent overheating protection, deactivates all heating elements when the set temperature is exceeded by 1 °C

CO_2

- Solid state IR sensor, equipped with Autozero and independent of the degree of humidity
- Range 0.5 to 20% in 0.1% increments
- +/- 0.1% control
- Uniformity Greater than +/- 0.1%
- Accuracy +/- 0.2% compared to the set value of 5%
- Recovery time Within 5 minutes, after opening the door for 15 seconds

RELATIVE HUMIDITY

- Tray tank with 2.5 lt capacity, in electropolished 304 L stainless steel
- RH level Up to 95%

DECONTAMINATION CYCLE

- Fully automatic type, temp, max, 125 °C, validated
- Ascent time 1.5-2.5 hours
- Exposure time 4 hours

- Descent time 5-7 hours
- Total time 10.5 - 13.5 hours

CONSTRUCTION DETAILS
- Inner chamber 304 stainless steel, weld-free, electropolished
- Internal volume (total / usable) 188.6 lt / 140 lt
- Internal dimensions (WxHxD) mm 530 x 690 x 500
- External dimensions (WxHxD) mm 680 x 896 x 746
- External finish Mild steel powder coated with external door coating in ABS
- Access to the inside Heated external door with direct access to the chamber or sealed internal glass door, with the possibility of access through 1/4 glass doors
- Hinging Opening to the right with the option of opening to the left (to be made at the factory)
- Net weight 102 Kg
- Weight with packaging 135 Kg

SUPPORTS AND SHELVES
- Types of supports Easy to assemble, in stainless steel 304 L, with plastic spacers resistant to high temperatures
- Type of shelves in stainless steel, not perforated (perforated available as optional)
- Shelf dimensions (DxW) mm 510 x 455 mm, with 150 mm in height available above each shelf
- Surface area, 0.23 sq m

ALARM SYSTEMS
- Fully programmable functional parameters, audio-visual signaling, automatic reset when conditions are restored
- Fully automatic incubator functions, activated in the presence of faults in the heating elements
- Recording Up to 500 rotating events are kept in memory; the 2 x 24 cm display will show the data relating to the programmed value, the real value, as well as the time and duration of the event that triggered the alarm.

SUPPLY
- Voltage 220-240 V, 50-60 Hz
- Absorption 1,5 kW
- Power required to maintain 37 °C <0.1 kW

EXTERNAL CONNECTIONS
- RS 232 output for data transmission: operating conditions, alarms and events
- RS 232 interface supplied, for remote access
- Contact for Volt-free remote alarm, for connection to external or centralized alarm system (BMS)