

## CB 210 - CO<sub>2</sub> incubator with hot air sterilization

Precision equipment for cell cultivation of the future. It has a drift-free infrared CO<sub>2</sub> measuring system to ensure stable pH values, condensation-free Permadyry™ interior chamber with integrated shelf supports, easy to clean, where the surface area is kept to a minimum in order to reduce potential sites for germs to establish; an effective sterilization program that operates at 180 °C in compliance with standards, for cultivation without any contamination. All of these features along with the absolutely precise temperature accuracy, which you have come to expect from us.



### ► Performance features and equipment:

- Electronically controlled APT.line™ preheating chamber assuring temperature accuracy and reproducible results
- Temperature range 7 °C (13 °F) above ambient temperature up to 60 °C (140 °F)
- MCS controller for temperature and CO<sub>2</sub> concentration
- Features:
  - User friendly LCD screen
  - Easy-to-read menu guide
  - Integrated electronic chart recorder
  - Variety of options for the graphic display of process parameters
  - Real-time clock
- Standard compliant 180 °C (356 °F) hot air sterilization using an overnight cycle time (acc to. DIN 58947, Pharmacopoeias, ANSI)
- VENTAIR™ Jacket System
- Drift free infrared CO<sub>2</sub> measurement system
- Gas mixing head
- Permadyry™ system - condensation-free double-pan humidification system, maintains dry interior walls
- Weldless deep-drawn inner chamber made of stainless steel with integrated shelf support system
- Electronic self-diagnostic system for errors with optical and audible alarm, as well as relay contact for central monitoring
- Independent adjustable temperature safety device class 3.1, providing full protection against chamber over-temperature, with visual and audible temperature alarm
- Tightly-fitting inner glass door
- RS 422 interface for use with optional GMP/GLP and FDA guideline 21 CFR Part 11 compliant APT-COM™ DataControlSystem software
- 3 perforated shelves made of stainless steel for CB 150, CB 210 with Standard equipment and O<sub>2</sub>-Control 2 perforated shelves made of stainless steel for CB 53 with Standard equipment and O<sub>2</sub>-Control
- Units are stackable with stacking adapter
- Door Lock
- BINDER test certificate



**CB 210**

<b>Exterior dimensions</b>	
Width (mm/inch)	740 / 29.1
Height (inclusive feet) (mm/inch)	1069 / 42.1
Depth (mm/inch)	715 / 28.2
plus connections (mm/inch)	60 / 2.36
plus door handle and I-Triangle (mm/inch)	54 / 2.13
Wall clearance rear (mm/inch)	100 / 3.94
Wall clearance side (mm/inch)	50 / 2.0
<b>Interior dimensions</b>	
Width (mm/inch)	560 / 22.1
Height (mm/inch)	750 / 29.5
Depth (mm/inch)	500 / 19.7
Interior volume (l/cu.ft.)	210 / 7.5
Perforated shelves, stainless steel (number standard/max.)	3 / 8
Dimensions of perforated shelves, Width (mm/inch)	555,5 / 21.9
Dimensions of perforated shelves, Depth (mm/inch)	444 / 17.5
Weight of the unit (empty) (kg/lbs.)	121 / 267
<b>Temperature / CO2 data</b>	
Temperature range 7 °C (13 °F) above ambient up to °C/°F	60 / 140
Temperature variation at 37 °C (98.6 °F) (± °C)	0.4
Temperature fluctuation (± °C)	0.1
Recovery time after door was opened for 30 sec. 1)	
at 37 °C (98.6 °F) (Min.)	3
CO2-range (Vol.-% CO2)	0-20
Setting accuracy (Vol.-% CO2)	0.1
Recovery time after door was opened for 30 sec. 1)	
up to 5 Vol.-% (min)	3
CO2-measurement	IR
Connection hose nozzle DN6 for CO2 for hose with internal diameter (mm/inch)	6 / 0.24
Humidity average value (% RH)	95
O2-range (Vol.-% O2)	0.2-95
Setting accuracy (Vol.-% O2)	0.1
Recovery time 1)	
from 20 vol % up to 0.2 vol % O2 (Min.)	120
from 20 vol % up to 5 vol % O2 (Min.)	64
from 20 vol % up to 10 vol % O2 (Min.)	31
from 20 vol % up to 15 vol % O2 (Min.)	14
from 20 vol % up to 30 vol % O2 (Min.)	7
from 20 vol % up to 50 vol % O2 (Min.)	25
from 20 vol % up to 80 vol % O2 (Min.)	75
O2-measurement	ZrO2
Connection hose nozzle DN6 for O2 / N2 for hose with internal diameter (mm/inch)	6 / 0.24
<b>Electrical data</b>	
Housing protection acc. to EN 60529	IP 20
Nominal voltage (±10 %) 50/60 Hz (V)	230 / 115
Nominal power (W)	1500
Energy consumption at 37 °C (98.6 °F) (W)	140

1) up to 98 % of the set value

All technical data are specified for units with standard equipment at an ambient temperature of 25°C and a voltage fluctuation of  $\pm 10\%$ . The temperature data are determined in accordance to factory standard following DIN 12880 respecting the recommended wall clearances of 10 % of the height, width and depth of the inner chamber. All indications are average values, typical for units produced in series. We reserve the right to alter technical specifications at all times.



▶ **Gas-tight, divided inner glass door**

Maintains consistent climatic conditions within the incubator. Minimal loss of incubator atmosphere, heat and, CO<sub>2</sub> during loading, as well as fast recovery times.



▶ **Silicon access ports**

Silicon access ports are provided for inserting external measuring devices. They have a diameter of 30 mm and can be sealed with a silicone plug on both sides, for positioning either on the left or the right rear side.



▶ **Stacking frame**

Used for stacking two BINDER CO<sub>2</sub> Incubators which are thermally isolated from each other.

**CB 210**

Silicone access port closable with two silicone lids 30 mm (1.18 inch), left side	<input type="radio"/>
Silicone access port closable with two silicone lids 30 mm (1.18 inch), right side	<input type="radio"/>
Silicone access port on both sides closable with two silicone lids 30 mm (1.18 inch), back	<input type="radio"/>
Keyboard lock	<input type="radio"/>
Gastank connection kit for CO <sub>2</sub> , consisting of a gastank pressure regulator, max. pressure 10 bar, with connection parts, and a (5 m / 16.4 ft.) hose	<input type="radio"/>
Gastank connection kit for O <sub>2</sub> , consisting of a gastank pressure regulator, max. pressure 10 bar, with connection parts, and a (5 m / 16.4 ft.) hose	<input type="radio"/>
Gastank connection kit for N <sub>2</sub> , consisting of a gastank pressure regulator, max. pressure 10 bar, with connection parts, and a (5 m / 16.4 ft.) hose	<input type="radio"/>
BINDER Gas Supply Service: External gastank changer for connection of 2 gastanks, either CO <sub>2</sub> or N <sub>2</sub> , with audible and visual alarm and zero-voltage alarm output	<input type="radio"/>
Ethernet interface instead of the RS 422 interface	<input type="radio"/>
4 - 20 mA analog output for temperature and CO <sub>2</sub> measurements (e.g. chart recorder connection), with 6-pin DIN socket (output not adjustable)	<input type="radio"/>
Interior power socket with ON / OFF switch and LEMO connector (maximum power rating 230 V, 1N, 50 / 60 Hz)	<input type="radio"/>
Independent electronic safety system Intelligent Fail Safe. Unique safety plus for continuous monitoring of the CO <sub>2</sub> control, preventing any unnoticed deviations of the CO <sub>2</sub> concentration from the set point. Note: Not possible with options access port or divided glass door	<input type="radio"/>
Factory calibration certificate for temperature and CO <sub>2</sub> . Temperature measurement in center / CO <sub>2</sub> measurement performed using analyzed test gas at 37 °C (98.6 °F) and 5 % CO <sub>2</sub>	<input type="radio"/>
Factory calibration certificate for the O <sub>2</sub> control option. O <sub>2</sub> measurement performed using analyzed test gas at 1% O <sub>2</sub>	<input type="radio"/>
Temperature measurement acc. to DIN 12880 (27 measuring points) at 37 °C (98.6 °F) or at specified temperature with measuring protocol and certificate.	<input type="radio"/>
Manual for Primary Human Cell Culture	<input type="radio"/>
Current feedthrough (8-pin) for low voltage with LEMO socket (coverable) and LEMO plug (loading capacity max. 24 V AC/DC - 2A)	<input type="radio"/>
Internal CO <sub>2</sub> gastank changer, for connecting two gas gastanks. Offers precise control over the current condition of CO <sub>2</sub> supply to incubator by means of alarm messaging and incident reporting	<input type="radio"/>
Internal CO <sub>2</sub> gastank changer, for connecting two gas gastanks, with external connection for up to one additional CO <sub>2</sub> incubator. Offers precise control over the current condition of CO <sub>2</sub> supply to incubator by means of alarm messaging and incident reporting	<input type="radio"/>
Internal O <sub>2</sub> and N <sub>2</sub> gastank changer for connecting two gastanks of either gas	<input type="radio"/>
Shelf, perforated, stainless steel	<input type="radio"/>
Divided shelf, stainless steel for divided gas - tight inner glass door	<input type="radio"/>
Base on castors	<input type="radio"/>
Stacking frame vibration - free, on castors with stop brake, for direct and safe stacking of 2 CB incubators with wedge equipment.	<input type="radio"/>
Stacking adapter for direct thermal decoupled stacking of two CB 210 CO <sub>2</sub> incubators	<input type="radio"/>
CELLROLL. Modular and expandable roller bottle system for cell cultivation, for 6 roller bottles	<input type="radio"/>