

## CB 53 - 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 Permadyr™ 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 :

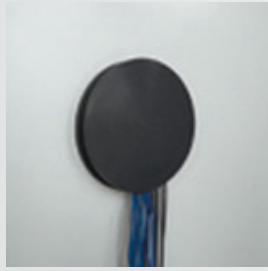
- Electronically controlled APT.line™ preheating chamber assuring temperature accuracy and reproducible results
- Temperature range 5 °C (9 °F) above ambient temperature up to 60 °C (140 °F)
- MCS controller with 25 storable programs of 100 sections each for a maximum of 500 program segments
- Features:
  - 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 cycletime (acc to. DIN 58947, Pharmacopoeias, ANSI)
- VENTAIR™ Jacket System
- Drift free infrared CO<sub>2</sub> measurement system
- Gas mixing head
- Permadyr™ 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
- 2 perforated shelves made of stainless steel
- Units are stackable with stacking adapter
- Lockable door
- BINDER test certificate



CB 53

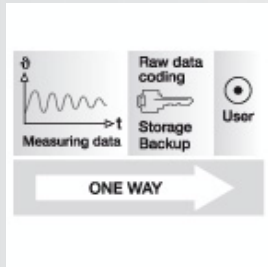
<b>Exterior dimensions</b>	
Width (mm/inch)	580 / 22.83
Height (inclusive feet) (mm/inch)	720 / 28.35
Depth (plus 55 mm (2.17 in.) for instrument panel) (mm/inch)	546 / 21.5
Wall clearance rear (mm/inch)	100 / 3.94
Wall clearance side (mm/inch)	50 / 1.97
Number of doors	1
Number of inner glass doors	1
<b>Interior dimensions</b>	
Width (mm/inch)	400 / 15.75
Height (mm/inch)	400 / 15.75
Depth (mm/inch)	330 / 12.99
Interior volume (l/cu.ft.)	53 / 1.9
Perforated shelves, stainless steel (number standard/max.)	2 / 3
Dimensions of perforated shelves, Width (mm/inch)	396 / 15.59
Dimensions of perforated shelves, Depth (mm/inch)	289 / 11.38
Weight of the unit (empty) (kg/lbs.)	61 / 134
<b>Temperature data</b>	
Temperature range 5 °C (9 °F) above ambient up to (°C/°F)	60 / 140
Temperature variation at 37 °C (98.6 °F) (± K)	0.3
Temperature fluctuation at 37 °C (98.6 °F) (± K)	0.1
Recovery time after door was opened for 30 sec. at 37 °C (98.6 °F) (Min.)	3
<b>Humidity data</b>	
Humidity average value (% RH)	≥ 95
<b>CO2 data</b>	
CO2 range (Vol.-% CO2)	0 - 20
Setting accuracy (Vol.-% CO2)	0.1
Recovery time after door was opened for 30 sec.	
at 5.0 Vol.-% (Min.)	6
CO2-measurement	IR
Connection hose nozzle for CO2 for hose with internal diameter (mm/inch)	6 / 0.24
<b>O2 data</b>	
O2-range (Vol.-% O2)	0.2 - 95
Setting accuracy (Vol.-% O2)	0.1
Recovery time after door was opened for 30 sec.	
at 2.0 vol % O2 (Min.)	30
at 5.0 vol % O2 (Min.)	13
O2-measurement	ZrO2
Connection hose nozzle for O2 / N2 for hose with internal diameter (mm/inch)	6 / 0.24
<b>Electrical data</b>	
Nominal voltage (±10 %) 50 / 60 Hz (V)	230
Nominal power (kW)	1.0
Energy consumption at 37 °C (98.6 °F) (W)	70

All technical data are specified for units with standard equipment at an ambient temperature of 25 °C and a voltage fluctuation of ±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.



▶ Silicon access port

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 on the back side.



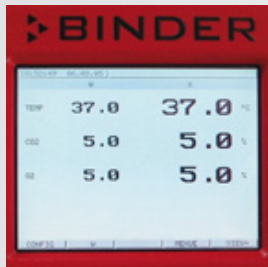
▶ APT-COM™ DataControlSystem GLP Edition

Software for GLP compliant control, programming, and documentation. Permits networks of up to 30 units and/or controllers. Meets the requirements of FDA 21 CFR Part 11.



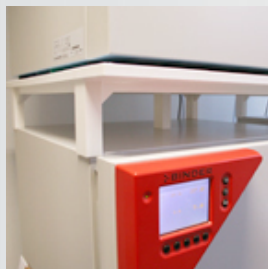
▶ Calibration certificates

Measurement in the center at specified values. Additional measuring points or test values according to your specification.



▶ Control for variable O<sub>2</sub> values

This adjustment is performed with an additional control circuit by controlled feeding of oxygen or nitrogen for hyperoxic or hypoxic culture conditions. Measurement is performed with a zirconium oxide sensor (ZrO<sub>2</sub>).



▶ Stacking adapter

Used for stacking of two CB incubators which are thermally isolated from each other. The incubators can thus be sterilized with hot air independent of each other. Available as stacking adapters, stacking frames or base frames.

**CB 53**

Ethernet interface instead of the RS 422 interface	<input type="checkbox"/>
Silicone access port closable with two silicone lids, 30 mm (1.18 inch) back	<input type="checkbox"/>
Locking of controller keyboard	<input type="checkbox"/>
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 hose	<input type="checkbox"/>
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 hose	<input type="checkbox"/>
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 hose	<input type="checkbox"/>
Manual for Primary Human Cell Culture, in English	<input type="checkbox"/>
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="checkbox"/>
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="checkbox"/>
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="checkbox"/>
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	<input type="checkbox"/>
Gas Supply Control Unit, for the connection of 2 gastank, either CO <sub>2</sub> or N <sub>2</sub> , with acoustic and visible alarm (Available 3. quarter 2009)	<input type="checkbox"/>
Shelf, perforated, stainless steel	<input type="checkbox"/>
Base on castors	<input type="checkbox"/>
Stacking frame vibration - free, on castors with stop brake, for direct and safe stacking of 2 CB incubators with wedge equipment	<input type="checkbox"/>