

# Model CB 56 | CO<sub>2</sub> incubators with hot air sterilization and heat sterilizable CO<sub>2</sub> sensor

The powerful and versatile CB CO<sub>2</sub> incubator is suitable for cell-based assays in drug and medical research. This BINDER incubator is even suitable for complex cultivation experiments or individual environments with hypoxic conditions thanks to its comprehensive assortment of options and accessories.

## BENEFITS

- Safe – cell cultures receive maximum protection against contamination
- Reliable – constant well-being conditions for the cells
- Smart – simple routine cleaning and convenient operation
- Economical – efficient operation without consumables



Model 56



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## MAIN FEATURES

- Optimized humidification system with condensation protection
- Tried-and-tested anti-contamination concept with 180 °C hot air sterilization
- Hot-air sterilizable CO<sub>2</sub> sensor with single-beam infrared technology
- Seamless inner chamber made of stainless steel with flanges as shelf support system
- Fanless interior with Venturi CO<sub>2</sub> gas mixing nozzle
- Intuitive touchscreen controller
- Internal data recording, can be read out in open format via USB interface
- Fault diagnosis system with visual and acoustic alarm
- Interfaces: Ethernet, USB, zero-voltage alarm contact
- Fail-safe CO<sub>2</sub> system for protecting the pH of cell cultures

## OPTIONAL EQUIPMENT

- O<sub>2</sub> control with O<sub>2</sub> control ranges: 0.2 to 20 vol.% O<sub>2</sub> or 10 to 95 vol.% O<sub>2</sub>
- Multi-sectional glass doors with special shelves for dividing up the space to accommodate different experiments
- Stacking adapter for secure, space-saving installation
- Gas tank changer for connecting two gas tanks to one or two incubators

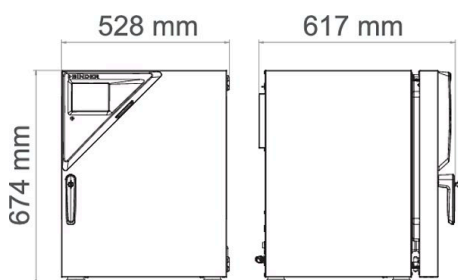
## ORDERING INFORMATION

Interior volume [L]	Voltage	Option model	Version	Art.-No.
53	200...230 V 1~ ph 50/60 Hz	Standard	CB056-230V	9640-0005
	100...120 V 1~ ph 50/60 Hz	Standard	CB056UL-120V	9640-0007

**TECHNICAL DATA**

Description	CB056-230V <sup>1</sup>	CB056UL-120V <sup>1</sup>
<b>Article Number</b>	<b>9640-0005</b>	<b>9640-0007</b>
<b>Performance Data Temperature</b>		
Temperature range +4 °C above ambient temperature to [°C]	60	60
Temperature variation at 37 °C [± K]	0.3	0.3
Temperature fluctuation at 37 °C [± K]	0.1	0.1
Recovery time after 30 seconds door open at 37 °C [min]	5	5
<b>Performance Data Climate</b>		
Humidity range	90...95	90...95
<b>CO<sub>2</sub>-Data</b>		
CO <sub>2</sub> range [Vol.-% CO <sub>2</sub> ]	0...20	0...20
CO <sub>2</sub> measurement	IR	IR
<b>Tabellen</b>		
CO <sub>2</sub> Recovery time after 30 seconds door open at 5 Vol.-% CO <sub>2</sub> [min]	5	5
<b>Electrical data</b>		
Rated Voltage [V]	200...230	100...120
Power frequency [Hz]	50/60	50/60
Nominal power [kW]	0.8	0.8
Unit fuse [A]	10	16
Phase (Nominal voltage)	1~	1~
<b>Measures</b>		
Interior volume [L]	53	53
Net weight of the unit (empty) [kg]	53	53
Permitted load [kg]	30	30
Load per rack [kg]	10	10
Wall clearance back [mm]	100	100
Wall clearance sidewise [mm]	50	50
<b>Internal Dimensions</b>		
Width [mm]	400	400
Height [mm]	400	400
Depth [mm]	330	330
<b>Doors</b>		
Inner doors	1	1
Unit doors	1	1
<b>Housing dimensions not incl. fittings and connections</b>		
Width net [mm]	528	528
Height net [mm]	674	674
Depth net [mm]	545	545
<b>Environment-specific data</b>		
Sound-pressure level [dB(A)]	41	41
<b>Fixtures</b>		
Number of shelves (std./max.)	2/3	2/3

<sup>1</sup> All technical data is specified for unloaded units with standard equipment at an ambient temperature of +22 °C ±3 °C and a power supply voltage fluctuation of ±10%. The temperature data is determined to BINDER factory standard following DIN 12880, observing 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 change technical specifications at any time.

**DIMENSIONS incl. fittings and connections [mm]****OPTIONS**

Designation	Description	*	Art.-No.
<b>Access port with silicone plug</b>	back 30 mm	01	8612-0025
	left 30 mm	01	8612-0026
	right 30 mm	01	8612-0027
<b>Analog output 4-20 mA</b>	for temperature and CO <sub>2</sub> values (outputs not adjustable)	02	8612-0022
<b>Calibration certificate, temperature</b>	for temperature, measurement in center of chamber at specified temperature	-	8012-1132
	temperature measurement incl. certificate and 27 measuring points at specified temperature	-	8012-1592
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	-	8012-1571
	temperature measurement incl. certificate, 9 measuring points at specified temperature	-	8012-1550
<b>Calibration certificate, temperature and CO<sub>2</sub></b>	for temperature and CO <sub>2</sub> , temperature measurement in center of chamber, CO <sub>2</sub> measurement performed using test gas at 37 °C and 5 % CO <sub>2</sub>	-	8012-1235
<b>Door hinged on the left</b>	Unit door and standard glass inner door with door hinged on the left	-	8612-0034
<b>Electric access port</b>	8-pin, for low voltage with LEMO socket (coverable) and LEMO plug (max. 24 V – 2 A)	-	8612-0033
<b>Inner door, divided</b>	Cell therapy compartmentalization, consisting of 4 inner doors and two shelf levels with one partition wall each	-	8612-0029

\* Notes › See last page

**ACCESSORIES**

Designation	Description	*	Art.-No.
<b>APT-COM™ 4 BASIC-Edition</b>	for simple logging and documentation requirements with up to 5 networked units. version 4, BASIC edition	-	9053-0039
<b>APT-COM™ 4 GLP-Edition</b>	for working under GLP-compliant conditions. Measured values are documented in a tamper-proof way in line with the requirements of FDA Regulation 21 CFR 11. version 4, GLP edition	-	9053-0042
<b>APT-COM™ 4 PROFESSIONAL-Edition</b>	convenient unit and user management built on the BASIC edition. Suitable for networking up to 100 units. version 4, PROFESSIONAL edition	-	9053-0040
<b>Base</b>	the base equipped with casters is used for the secure positioning and leveling of a BINDER CO <sub>2</sub> incubator	-	9051-0043
<b>Gas cylinder connection set</b>	for CO <sub>2</sub> , consisting of a gas tank pressure regulator with connection parts and 5-meter hose	-	8012-0014
	for N <sub>2</sub> , consisting of a gas tank pressure regulator with connection parts and 5-meter hose	-	8012-0016
	for O <sub>2</sub> , consisting of a gas tank pressure regulator with connection parts and 5-meter hose	-	8012-0015
<b>Gas tank changer</b>	external, BINDER Gas Supply Service, for connecting 2 gas tanks (CO <sub>2</sub> , N <sub>2</sub> or O <sub>2</sub> ), with audible and visual alarms, as well as zero-voltage alarm output	-	8012-0408
<b>pH-neutral detergent</b>	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-0016

\* Notes › See last page

Designation	Description	*	Art.-No.
<b>Qualification documents</b>	IQ/OQ documents – supporting documents for validation performed by customers, consisting of: IQ/OQ checklists incl. calibration guide and comprehensive unit documentation; parameters: temperature, CO <sub>2</sub> , O <sub>2</sub> , pressure, depending on unit		
	Digital in PDF format	–	7057-0001
	Hard copy inside folder	–	7007-0001
	IQ/OQ/PQ documents – supporting documents for validation performed by customers, according to customer requirements, PQ section added to qualification folder IQ/OQ; parameters: temperature, CO <sub>2</sub> , O <sub>2</sub> – or pressure, depending on unit		
<b>Rubber pads</b>	Digital in PDF format	–	7057-0005
	Hard copy inside folder	–	7007-0005
<b>Rubber pads</b>	set anti-slip feet	–	8012-0702
	Stainless steel	–	6004-0136
<b>Shelf, perforated</b>	for divided inner door		
	stainless steel	–	8012-2058
<b>Stacking adapter</b>	for the thermally isolated stacking of two BINDER CO <sub>2</sub> incubators	–	9051-0038
<b>WLAN kit</b>	The kit contains a client bridge that establishes a wireless connection between BINDER units and APT-COM4, LIMS, or customer-specific software via an Ethernet interface. It provides an alternative solution in situations where units need to be positioned in locations without an on-site Ethernet connection. In secured networks, installation and configuration must be performed by the customer's IT service.	–	8500-0164

\* Notes › See last page

## SERVICES

Designation	Description	*	Art.-No.
<b>Installation services</b>			
Unit commissioning	Connect the unit to the customer-side connections (electricity, water, wastewater, gas), basic functions check, brief operating instructions. (excl.: unpacking, setup, controller instructions, programming, installation work)	05	DL10-0100
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming	05	DL10-0500
<b>Maintenance contracts</b>			
<b>Maintenance services</b>			
BRONZE 3-year maintenance contract	Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts	05	DL20-0710
GOLD 3-year maintenance contract	Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, replacement of wear parts, calibration of one temperature and CO <sub>2</sub> value, including certificate	05	DL20-0940
Maintenance	One-off maintenance service in accordance with maintenance schedule. Visual inspection of mechanical and electrical components, testing of all key functions. Calibration of a test temperature specified by the user in center of usable space without certificate	05	DL20-0400
SILVER 3-year maintenance contract	Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, calibration of one test temperature specified by the user in the center of the usable space, without certificate	05	DL20-0820
<b>Calibration services</b>			
Calibration certificate, temperature	Calibration of one (1) test temperature specified by the user in center of chamber, including certificate	03, 04, 05	DL30-0101
	Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate	03, 04, 05	DL30-0102
CO <sub>2</sub> calibration	CO <sub>2</sub> calibration at a specified value, measurements are taken with analyzed test gas at 5%, including certificate	03, 04, 05	DL30-0401
O <sub>2</sub> calibration	O <sub>2</sub> calibration with 1 measuring point in center of chamber at a specified O <sub>2</sub> percentage value, including certificate	03, 04, 05	DL30-0402
Temperature measurement, 18 measuring points	Temperature measurement with 18 measuring points with a set value specified by the user, including certificate	03, 04, 05	DL30-0118
Temperature measurement, 27 measuring points	Temperature measurement with 27 measuring points with a set value specified by the user, including certificate	03, 04, 05	DL30-0127
Temperature measurement, 9 measuring points	Temperature measurement with 9 measuring points with a set value specified by the user, including certificate	03, 04, 05	DL30-0109

\* Notes › See last page

<b>Designation</b>	<b>Description</b>	<b>*</b>	<b>Art.-No.</b>
<b>Validation services</b>			
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder	05	DL41-0200
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder	05	DL44-0500
<b>Warranty service</b>			
1-year warranty extension	The warranty is extended by 1 year from the delivery date, wear parts are excluded	-	DL50-0020

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**NOTES**

- 01 Condensation may occur in the area around the access port. Access ports may be placed in custom locations for an additional charge.
- 02 UL mark is not granted when this option is used.
- 03 Sensor calibration is performed in an accredited calibration laboratory.
- 04 Calibration is performed according to the BINDER factory standard.
- 05 Quoted prices do not include travel costs. Please refer to the chapter on BINDER Service for travel costs for your region. Quoted prices for services performed in Switzerland do not include a country-specific added fee (available on request).

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