

# Model CB 170 | CO<sub>2</sub> incubators with hot air sterilization and heat sterilizable CO<sub>2</sub> sensor

The BINDER CB series CO<sub>2</sub> incubator is the premium class among the CO<sub>2</sub> incubators. It is suitable for all sensitive incubation applications and ensures optimal cell growth. A BINDER CO<sub>2</sub> incubator of the CB series is up to even complex cultivation experiments or individual environments.

## 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 170



Model 170

## MAIN FEATURES

- Optimized double-pan 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.
170	200...230 V 1~ ph 50/60 Hz	Standard	CB170-230V	9640-0009
		with Access port 30 mm left	CB170-230V-D	9640-0027
		with O <sub>2</sub> control 0.2–20%	CB170-230V-O	9640-0010
	100...120 V 1~ ph 50/60 Hz	Standard	CB170UL-120V	9640-0011
		with Access port 30 mm left	CB170UL-120V-D	9640-0028
		with O <sub>2</sub> control 0.2–20%	CB170UL-120V-O	9640-0012

## TECHNICAL DATA

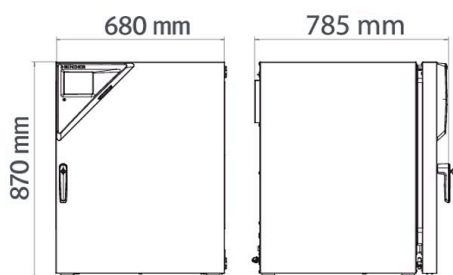
Description	CB170-230V <sup>1</sup>	CB170-230V-D <sup>1</sup>	CB170-230V-O <sup>1</sup>	CB170UL-120V <sup>1</sup>	CB170UL-120V-D <sup>1</sup>	CB170UL-120V-O <sup>1</sup>
Article Number	9640-0009	9640-0027	9640-0010	9640-0011	9640-0028	9640-0012
<b>Performance Data Temperature</b>						
Temperature range +4 °C above ambient temperature to [°C]	60	60		60	60	
Temperature range +6 °C above ambient temperature to [°C]			60			60
Temperature variation at 37 °C [± K]	0.3	0.3	0.3	0.3	0.3	0.3
Temperature fluctuation at 37 °C [± K]	0.1	0.1	0.1	0.1	0.1	0.1
Recovery time after 30 seconds door open at 37 °C [min]	6	6	6	6	6	6
<b>Performance Data Climate</b>						
Humidity range	90...95	90...95	90...95	90...95	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	0...20	0...20	0...20	0...20
CO <sub>2</sub> measurement	IR	IR	IR	IR	IR	IR
CO <sub>2</sub> Recovery time after 30 seconds door open at 5 Vol.-% CO <sub>2</sub> [min]	5	5	5	5	5	5
<b>O<sub>2</sub>-Data</b>						
Standard O <sub>2</sub> control ranges: O <sub>2</sub> range [Vol.-% O <sub>2</sub> ]			0.2...20			0.2...20
O <sub>2</sub> control ranges with option: O <sub>2</sub> range [Vol.-% O <sub>2</sub> ]			10...95			10...95
O <sub>2</sub> Recovery time after 30 seconds door open at 5 Vol.-% O <sub>2</sub> [min]			10			10
<b>Electrical data</b>						
Rated Voltage [V]	200...230	200...230	200...230	100...120	100...120	100...120
Power frequency [Hz]	50/60	50/60	50/60	50/60	50/60	50/60
Nominal power [kW]	1.4	1.4	1.4	1.4	1.4	1.4
Unit fuse [A]	10	10	10	16	16	16
Phase (Nominal voltage)	1~	1~	1~	1~	1~	1~
<b>Measures</b>						
Interior volume [L]	170	170	170	170	170	170
Net weight of the unit (empty) [kg]	98	98	98	98	98	98
Permitted load [kg]	30	30	30	30	30	30
Load per rack [kg]	10	10	10	10	10	10
Wall clearance back [mm]	100	100	100	100	100	100
Wall clearance sidewise [mm]	50	50	50	50	50	50
<b>Internal Dimensions</b>						
Interior width [mm]	560	560	560	560	560	560
Interior height [mm]	600	600	600	600	600	600
Interior depth [mm]	505	505	505	505	505	505
<b>Doors</b>						
Inner doors	1	1	1	1	1	1
Unit doors	1	1	1	1	1	1
<b>Housing dimensions not incl. fittings and connections</b>						
Width net [mm]	680	680	680	680	680	680
Height net [mm]	870	870	870	870	870	870
Depth net [mm]	715	715	715	715	715	715

1 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.

Description	CB170-230V <sup>1</sup>	CB170-230V-D <sup>1</sup>	CB170-230V-O <sup>1</sup>	CB170UL-120V <sup>1</sup>	CB170UL-120V-D <sup>1</sup>	CB170UL-120V-O <sup>1</sup>
Article Number	9640-0009	9640-0027	9640-0010	9640-0011	9640-0028	9640-0012
Environment-specific data						
Energy consumption at 37 °C [Wh/h]	55	55	55	55	55	55
Sound-pressure level [dB(A)]	41	41	41	41	41	41
Fixtures						
Number of shelves (std./max.)	3/6	3/6	3/6	3/6	3/6	3/6

- 1 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.
Access port with silicone plug	back		
	30 mm	01	8612-0025
	left		
	30 mm	01	8612-0026
	right		
	30 mm	01	8612-0027
Analog output 4-20 mA	for temperature and CO <sub>2</sub> values (outputs not adjustable)	02	8612-0022
Calibration certificate O <sub>2</sub>	for versions with O <sub>2</sub> control; a measuring point in center of chamber at a specified O <sub>2</sub> percentage value	-	8012-0229
Calibration certificate, temperature	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
Calibration certificate, temperature and CO <sub>2</sub>	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
CELLROLL Set	modular, expandable roller bottle system for cell cultivation, 4 roller bottles	-	8612-0023
Door hinged on the left	Unit door and standard glass inner door with door hinged on the left	-	8612-0034
Electric access port	8-pin, for low voltage with LEMO socket (coverable) and LEMO plug (max. 24 V – 2 A)	-	8612-0033
Inner door, divided	Cell therapy compartmentalization, consisting of 6 inner doors and three shelf levels with one partition wall each	-	8612-0030
O <sub>2</sub> control range	alternative to the standard range, for controlling O <sub>2</sub> concentrations between 10 and 95 vol. %, only in conjunction with option models with O <sub>2</sub> control	-	8612-0028
Quick sample access	viewing window (13 x 25 cm) in the inner door for quick access	-	8612-0032

\* 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	-	9051-0028
<b>Copper interior fittings</b>	Set consisting of 3 shelves (all-copper) and a water pan (copper-plated), more information.	-	8012-1918
<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>pH-neutral detergent</b>	concentrated, for gentle remove of residual contaminants; 1 kg	-	8012-2250
<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 Digital in PDF format	-	7057-0005
Hard copy inside folder	-	7007-0005	
<b>Rubber pads</b>	set anti-slip feet	-	8012-2030
<b>Shaker „Professional“</b>	Shaker and controller equipped with LEMO connectors, exclusively for CB with electric access port, 100 – 240 V, 50/60 Hz	-	8012-1772
<b>Shaker „Universal“</b>	Shaker and controller connected via ribbon cable, universally applicable, 100 – 240 V, 50/60 Hz	-	8012-1771
	Stainless steel	-	8012-2167
<b>Shelf, perforated</b>	for divided inner door		
	Stainless steel, divided	-	8012-1888
<b>Stacking adapter</b>	for the thermally isolated stacking of two BINDER CO <sub>2</sub> incubators	-	9051-0035
<b>Stacking frame</b>	stable, vibration-free stacking frame on casters with stop brake for safe stacking of two CB series units	-	9051-0040
<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.	-	8012-2262

\* Notes › See last page

## SERVICES

Designation	Description	*	Art.-No.
Maintenance contracts			
Installation services			
Maintenance services			
Calibration services			
Validation services			
Warranty service			
1-year warranty extension	The warranty is extended by 1 year from the delivery date, wear parts are excluded	-	DL50-0020
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

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## Data Sheet Model CB 170

Designation	Description	*	Art.-No.
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
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder	05	DL41-0210
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder	05	DL44-0500
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
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
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
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
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

\* Notes › See last page

## 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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