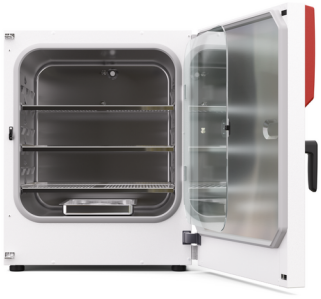
Model CB 170 | CO2 incubators with hot air sterilization and heat sterilizable CO2 sensor

The powerful and versatile CB CO_2 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 170



Model 170

IMPORTANT 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_2 sensor with single-beam infrared technology
- Seamless inner chamber made of stainless steel with flanges as shelf support system
- Fanless interior with Venturi CO_2 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_2 system for protecting the pH of cell cultures

OPTIONAL EQUIPMENT

- O_2 control with O_2 control ranges: 0.2 to 20 vol.% O_2 or 10 to 90 vol.% O_2
- 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		Power supply - unit fuse	Plug*	Version	Model version	Art.-No.
[cu.ft.]	[L]					
Model CB 170						
6	170	200...230 V 1~ 50/60 Hz -10,0 A	CEE 7/7	Standard	CB170-230V	9040-0199
				with left-hand hinge	CB170-230V-L	9040-0200
				with O_2 control	CB170-230V-O	9040-0201

Interior volume		Power supply - unit fuse	Plug*	Version	Model version	Art.-No.
[cu.ft.]	[L]					
				with O_2 control 0.2–20% and left-hand hinge	CB170-230V-OL	9040-0202
		100...120 V 1~ 50/60 Hz -16,0 A	NEMA 5-20	Standard	CB170UL-120V	9040-0203
				with left-hand hinge	CB170UL-120V-L	9040-0204
				with O_2 control 0.2–20%	CB170UL-120V-O	9040-0205
				with O_2 control 0.2–20% and left-hand hinge	CB170UL-120V-OL	9040-0206

TECHNICAL DATA

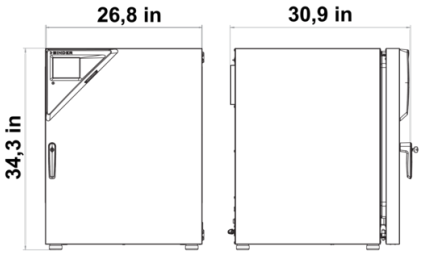
Data								
Article Number	9040-0199	9040-0200	9040-0201	9040-0202	9040-0203	9040-0204	9040-0205	9040-0206
Designation	CB170-230V	CB170-230V-L	CB170-230V-O	CB170-230V-OL	CB170UL-120V	CB170UL-120V-L	CB170UL-120V-O	CB170UL-120V-OL
Option model	Standard	with left-hand hinge	with O_2 control	with O_2 control 0.2–20% and left-hand hinge	Standard	with left-hand hinge	with O_2 control 0.2–20%	with O_2 control 0.2–20% and left-hand hinge
Performance Data Temperature								
Temperature range	+4 °C above ambient temperature to 50 °C	+4 °C above ambient temperature to 50 °C	+6 °C above ambient temperature to 50 °C	+6 °C above ambient temperature to 50 °C	+4 °C above ambient temperature to 50 °C	+4 °C above ambient temperature to 50 °C	+6 °C above ambient temperature to 50 °C	+6 °C above ambient temperature to 50 °C
Temperature uniformity at 37°C	0.3 ± K	0.3 ± K	0.3 ± K	0.3 ± K	0.3 ± K	0.3 ± K	0.3 ± K	0.3 ± K
Temperature fluctuation at 37°C	0.1 ± K	0.1 ± K	0.1 ± K	0.1 ± K	0.1 ± K	0.1 ± K	0.1 ± K	0.1 ± K
Recovery time after door was opened for 30 s at 37°C	6 min	6 min	6 min	6 min	6 min	6 min	6 min	6 min
Performance Data Climate								
Humidity range	90 ...95 % r.F.	90 ...95 % r.F.	90 ...95 % r.F.	90 ...95 % r.F.	90 ...95 % r.F.	90 ...95 % r.F.	90 ...95 % r.F.	90 ...95 % r.F.
Gas Data								
CO_2 range	0 ...20 Vol.-% CO_2	0 ...20 Vol.-% CO_2	0 ...20 Vol.-% CO_2	0 ...20 Vol.-% CO_2	0 ...20 Vol.-% CO_2	0 ...20 Vol.-% CO_2	0 ...20 Vol.-% CO_2	0 ...20 Vol.-% CO_2
CO_2 measuring technology	IR	IR	IR	IR	IR	IR	IR	IR
CO_2 recovery time after door was opened for 30 s at 5 vol. % CO_2	5 min	5 min	5 min	5 min	5 min	5 min	5 min	5 min
Standard O_2 control range			0.2 ...20 Vol.-% O_2	0.2 ...20 Vol.-% O_2			0.2 ...20 Vol.-% O_2	0.2 ...20 Vol.-% O_2
O_2 control ranges with option: O_2 range			10 ...90 Vol.-% O_2	10 ...90 Vol.-% O_2			10 ...90 Vol.-% O_2	10 ...90 Vol.-% O_2
O_2 recovery time after door was opened for 30 s at 5 vol. % O_2			10 min	10 min			10 min	10 min
Electrical data								
Rated Voltage	200...230 V	200...230 V	200...230 V	200...230 V	100...120 V	100...120 V	100...120 V	100...120 V

Power frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Nominal power	1,4 kW	1,4 kW	1,4 kW	1,4 kW	1,4 kW	1,4 kW	1,4 kW	1,4 kW
Unit fuse	10,0 A	10,0 A	10,0 A	10,0 A	16,0 A	16,0 A	16,0 A	16,0 A
Phase (Nominal voltage)	1~	1~	1~	1~	1~	1~	1~	1~
Dimensions and weights								
Interior volume	6 cu.ft.	6 cu.ft.	6 cu.ft.	6 cu.ft.	6 cu.ft.	6 cu.ft.	6 cu.ft.	6 cu.ft.
Net weight of the unit (empty)	209 lbs	209 lbs	209 lbs	209 lbs	209 lbs	209 lbs	209 lbs	209 lbs
Load per rack	22 lbs	22 lbs	22 lbs	22 lbs	22 lbs	22 lbs	22 lbs	22 lbs
Permitted load	66 lbs	66 lbs	66 lbs	66 lbs	66 lbs	66 lbs	66 lbs	66 lbs
Wall clearance back	3,94 in	3,94 in	3,94 in	3,94 in	3,94 in	3,94 in	3,94 in	3,94 in
Wall clearance sidewise	1,97 in	1,97 in	1,97 in	1,97 in	1,97 in	1,97 in	1,97 in	1,97 in
Housing dimensions not incl. fittings and connections								
Width net	26.77 in	26.77 in	26.77 in	26.77 in	26.77 in	26.77 in	26.77 in	26.77 in
Height net	34.25 in	34.25 in	34.25 in	34.25 in	34.25 in	34.25 in	34.25 in	34.25 in
Depth net	28.15 in	28.15 in	28.15 in	28.15 in	28.15 in	28.15 in	28.15 in	28.15 in
Internal Dimensions								
Interior width	22.05 in	22.05 in	22.05 in	22.05 in	22.05 in	22.05 in	22.05 in	22.05 in
Interior height	23.62 in	23.62 in	23.62 in	23.62 in	23.62 in	23.62 in	23.62 in	23.62 in
Interior depth	19.69 in	19.69 in	19.69 in	19.69 in	19.69 in	19.69 in	19.69 in	19.69 in
Inner doors	1	1	1	1	1	1	1	1
Unit doors	1	1	1	1	1	1	1	1
Environment-specific data								
Sound-pressure level	41 dB(A)	41 dB(A)	41 dB(A)	41 dB(A)	41 dB(A)	41 dB(A)	41 dB(A)	41 dB(A)
Energy consumption at 37°C	55 Wh/h	55 Wh/h	55 Wh/h	55 Wh/h	55 Wh/h	55 Wh/h	55 Wh/h	55 Wh/h
Fixtures								
Number of shelves (std./ max.)	3/6	3/6	3/6	3/6	3/6	3/6	3/6	3/6

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	CB 170	*	Art.-No.
Access port with silicone plug	back			
	30 mm	•	01	8012-1390
	left			
	30 mm	•	01	8012-1391
	right			
	30 mm	•	01	8012-1392
Analog output 4-20 mA	for temperature and CO_2 values (outputs not adjustable)	•	02	8012-1840
Calibration certificate, temperature	for temperature, measurement in center of chamber at specified temperature	•	-	8012-1132
	temperature measurement incl. certificate, 9 measuring points at specified temperature	•	-	8012-1550
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	•	-	8012-1571
	temperature measurement incl. certificate and 27 measuring points at specified temperature	•	-	8012-1592
Calibration certificate, temperature and CO_2	for temperature and CO_2, temperature measurement in center of chamber, CO_2 measurement performed using test gas at 37 °C and 5 % CO_2	•	-	8012-1235
Calibration certificate O2	for versions with O_2 control; a measuring point in center of chamber at 1 Vol.-% O_2	•	-	8012-2603
	for versions with O_2 control; a measuring point in center of chamber at 80 Vol.-% O_2	•	-	8012-2604
CELLROLL Set	modular, expandable roller bottle system for cell cultivation, 4 roller bottles	•	-	8012-1885
Electric access port	8-pin, for low voltage with LEMO socket (coverable) and LEMO plug (max. 24 V – 2 A)	•	-	8012-1848

Designation	Description	CB 170	*	Art.-No.
Inner door, divided	Cell therapy compartmentalization, consisting of 6 inner doors and three shelf levels with one partition wall each			
		•	-	8012-2024
	for a left-hand door	•	-	8012-2027
Quick sample access	vewing window (13 x 25 cm) in the inner door for quick access	•	-	8012-2726
		•	-	8012-2725

ACCESSORIES

Designation	Description	CB 170	*	Art.-No.
APT-COM™ 4 BASIC-Edition	for simple logging and documentation requirements with up to 5 networked units.			
	version 4, BASIC edition	•	-	9053-0039
APT-COM™ 4 GLP-Edition	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
APT-COM™ 4 PROFESSIONAL-Edition	convenient unit and user management built on the BASIC edition. Suitable for networking up to 100 units.			
	version 4, PROFESSIONAL edition	•	-	9053-0040
Base	the base equipped with casters is used for the secure positioning and leveling of a BINDER CO_2 incubator	•	-	9051-0028
Cleaning kit	for equipment maintenance and disinfection, consisting of pH-neutral detergent (1000 g, concentrate), spray disinfectant (500 ml, ready-to-use solution), lint-free cleansing tissues, protective gloves, and protective glasses	•	-	8012-0503
Copper interior fittings	Set consisting of 3 shelves (all-copper) and a water pan (copper-plated)	•	-	8012-1918
Gas cylinder connection set	for CO_2, consisting of a gas tank pressure regulator with connection parts and 5-meter hose	•	-	8012-0014
	for N2, consisting of a gas tank pressure regulator with connection parts and 5-meter hose	•	-	8012-0016
	for O2, consisting of a gas tank pressure regulator with connection parts and 5-meter hose	•	-	8012-0015
Gas tank changer	external, BINDER Gas Supply Service, for connecting 2 gas tanks (CO_2, N_2 or O_2), with audible and visual alarms, as well as zero-voltage alarm output	•	-	8012-2344
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	•	-	8012-2250

Designation	Description	CB 170	*	Art.-No.
Qualification documents IQ/OQ/PQ	IQ/OQ/PQ documents digital in PDF format – supporting documents for validation customizied to customer requirements, PQ section added to the qualification folder IQ/OQ; supporting documents for validation consisting of: IQ/OQ checklists, comprehensive unit documentation covering:			
	temperature and CO_2 values and O_2 values Excluded: Document execution is separate	•	-	7057-0020
	IQ/OQ/PQ documents digital in PDF format – supporting documents for validation customizied to customer requirements, PQ section added to the qualification folder IQ/OQ; supporting documents for validation consisting of: IQ/OQ checklists, comprehensive unit documentation covering:			
	temperature and CO_2 values. Excluded: Document execution is separate	•	-	7057-0019
Rubber pads	set anti-slip feet	•	-	8012-0702
Shaker „Universal“	Shaker and controller connected via ribbon cable, universally applicable, 100 – 240 V, 50/60 Hz	•	-	8012-1771
Shelf, perforated	Stainless steel	•	-	8012-2167
	for divided inner door			
	Stainless steel, divided	•	-	8012-1888
Stacking adapter	for the thermally isolated stacking of two BINDER CO_2 incubators	•	-	9051-0035
Stacking frame	stable, vibration-free stacking frame on casters with stop brake for safe stacking of two CB series units	•	-	9051-0040
Water supply	Set consisting of 6 bottles, each with 1,000 ml of sterile humidification water	•	-	8009-1192

SERVICES

Designation	Description	*	Art.-No.
Calibration services			
CO_2 calibration	CO_2 calibration at a specified value, measurements are taken with analyzed test gas at 5%, including certificate. Travel to be quoted separate.	05	DL30-0401
O_2 calibration	O_2 calibration with 1 measuring point in center of chamber at a specified O_2 percentage value, including certificate. Travel to be quoted separate.	05	DL30-0402
Temperature calibration	Calibration of one (1) test temperature specified by the user in center of chamber, including certificate Travel to be quoted separate.	05	DL30-0140
	Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate Travel to be quoted separate.	05	DL30-0102
Temperature measurement, 9 measuring points	Temperature measurement with 9 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 3 shelves are required.	05	DL30-0109

Designation	Description	*	Art.-No.
Temperature measurement, 18 measuring points	Temperature measurement with 18 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 2 shelves are required.	05	DL30-0118
Temperature measurement, 27 measuring points	Temperature measurement with 27 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 3 shelves are required.	05	DL30-0127
Installation services			
Unit installation	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) Travel to be quoted as separate.	05	DL10-0170
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming. Travel to be quoted as separate Limited to 3 hours.	05	DL10-0550
Maintenance services			
BRONZE 3-year maintenance contract	Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate. 10% Discount on Spare Parts and Labor for any additional Services needed Wear + tear parts to be purchased or billed to customer. Travel to be quoted as separate.	05	DL20-0710
GOLD 3-year maintenance contract	Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate of Temperature. 25% Discount on Spare Parts and Labor for any additional Services needed. One additional courtesy visit per year can be used for service visit or operator. Wear + tear parts to be purchased or billed to customer. Travel to be quoted separate.	05	DL20-0975
Preventive maintenance	One-off maintenance service in accordance with maintenance schedule. Visual inspection of mechanical and electrical components, testing of all key functions. Checking a test temperature specified by the user in center of usable space without certificate. Wear + tear parts need to be purchased or billed to customer. Travel to be quoted as separate.	05	DL20-0608
SILVER 3-year maintenance contract	Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate 15% Discount on Spare Parts and Labor for any additional Services needed One additional courtesy visit per year can be used for service visit or operator training. Wear + tear parts to be purchased or billed to customer. Travel to be quoted separate.	05	DL20-0875
Validation services			
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder. Travel to be quoted separate.	05	DL41-0200
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder. Travel to be quoted separate.	05	DL44-0500
Warranty service			
1-year warranty extension	The warranty is extended by 1 year from the delivery date, wear parts are excluded	05	DL50-0020

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.

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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