

# Model CB 60 | 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 CB series CO<sub>2</sub> incubator can perform complex cultivation experiments as well as specific environmental conditions.

## BENEFITS

- Maximum usable space with minimal footprint and excellent ease of use
- Minimum risk of contamination thanks to uncompromising hot-air sterilization
- Fanless, easy-to-clean hygienic interior
- Stable pH values thanks to drift-free CO<sub>2</sub> IR sensor technology
- Low evaporation of the medium due to high levels of humidity and quick recovery time



Model 60

## MAIN FEATURES

- Temperature range: room temperature plus 7 °C to 60 °C
- Humidity range: up to 95% RH
- O<sub>2</sub> control range: 0.2 to 20 vol% O<sub>2</sub> for versions with O<sub>2</sub> control
- Alternative O<sub>2</sub> control range: 10 to 95 vol% O<sub>2</sub>, option for versions with O<sub>2</sub> control
- Auto-sterilization with hot air at 180 °C
- Double-pan humidification system with condensation protection
- CO<sub>2</sub> gas-mixing jet with Venturi effect
- Hot-air sterilizable CO<sub>2</sub> sensor with infrared technology
- Display via color LCD monitor
- Lockable door handle
- Tightly-sealed inner door made of tempered safety glass
- Seamless, deep-drawn inner stainless steel chamber
- 2 perforated stainless steel shelves
- Units are stackable with stacking adapter
- Troubleshooting system with visual and audible alarms
- Computer interface: Ethernet
- Internal data recording and USB interface
- Zero-voltage alarm contact

## ORDERING INFORMATION

Interior volume [L]	Voltage	Option model	Version	Art.-No.
53	200...240 V 1~ ph 50/60 Hz	Standard	CB060-230V	9040-0088
		with O <sub>2</sub> control	CB060-230V-O	9040-0090
		with 4x divided inner door	CB060-230V-G	9040-0104
		with O <sub>2</sub> control and with 4x divided inner door	CB060-230V-GO	9040-0106
	100...120 V 1~ ph 50/60 Hz	Standard	CB060UL-120V	9040-0089
		with O <sub>2</sub> control	CB060UL-120V-O	9040-0091
with 4x divided inner door		CB060UL-120V-G	9040-0105	
		with O <sub>2</sub> control and with 4x divided inner door	CB060UL-120V-GO	9040-0107

**TECHNICAL DATA** (Version 1-4 from 8)

Description	CB060-230V <sup>1</sup>	CB060-230V-O <sup>1</sup>	CB060-230V-G <sup>1</sup>	CB060-230V-GO <sup>1</sup>
Article Number	9040-0088	9040-0090	9040-0104	9040-0106
<b>Performance Data Temperature</b>				
Temperature range 7 °C above ambient temperature to	60	60	60	60
Temperature variation at 37 °C [± K]	0.3	0.3	0.3	0.3
Temperature fluctuation at 37 °C [± K]	0.1	0.1	0.1	0.1
Recovery time after 30 seconds door open at 37 °C [min]	4	4	4	4
<b>Performance Data Climate</b>				
Humidity range [% RH]	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
CO <sub>2</sub> measurement	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
<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]		8		8
<b>Electrical data</b>				
Rated Voltage [V]	200...240	200...240	200...240	200...240
Power frequency [Hz]	50/60	50/60	50/60	50/60
Nominal power [kW]	1.0	1.0	1.0	1.0
Unit fuse [A]	10	10	10	10
Phase (Nominal voltage)	1~	1~	1~	1~
<b>Measures</b>				
Interior volume [L]	53	53	53	53
Net weight of the unit (empty) [kg]	63	65	65	68
Permitted load [kg]	30	30	30	30
Load per rack [kg]	10	10	10	10
Wall clearance back [mm]	100	100	100	100
Wall clearance sidewise [mm]	50	50	50	50
<b>Internal Dimensions</b>				
Width [mm]	400	400	400	400
Height [mm]	400	400	400	400
Depth [mm]	330	330	330	330
<b>Doors</b>				
Inner doors	1	1	4	4
Unit doors	1	1	1	1
<b>Housing dimensions not incl. fittings and connections</b>				
Width net [mm]	580	580	580	580
Height net [mm]	720	720	720	720
Depth net [mm]	545	545	545	545
<b>Environment-specific data</b>				
Energy consumption at 37 °C [Wh/h]	80	80	80	80

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	CB060-230V <sup>1</sup>	CB060-230V-O <sup>1</sup>	CB060-230V-G <sup>1</sup>	CB060-230V-GO <sup>1</sup>
Article Number	9040-0088	9040-0090	9040-0104	9040-0106
<b>Fixtures</b>				
Number of shelves (std./max.)	2/3	2/3	2/3	2/3

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.

## TECHNICAL DATA (Version 5-8 from 8)

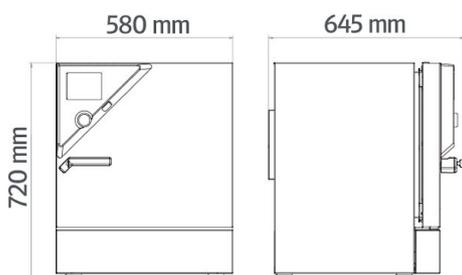
Description	CB060UL-120V <sup>1</sup>	CB060UL-120V-O <sup>1</sup>	CB060UL-120V-G <sup>1</sup>	CB060UL-120V-GO <sup>1</sup>
Article Number	9040-0089	9040-0091	9040-0105	9040-0107
<b>Performance Data Temperature</b>				
Temperature range 7 °C above ambient temperature to	60	60	60	60
Temperature variation at 37 °C [± K]	0.3	0.3	0.3	0.3
Temperature fluctuation at 37 °C [± K]	0.1	0.1	0.1	0.1
Recovery time after 30 seconds door open at 37 °C [min]	4	4	4	4
<b>Performance Data Climate</b>				
Humidity range [% RH]	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
CO <sub>2</sub> measurement	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
<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]		8		8
<b>Electrical data</b>				
Rated Voltage [V]	100...120	100...120	100...120	100...120
Power frequency [Hz]	50/60	50/60	50/60	50/60
Nominal power [kW]	1.0	1.0	1.0	1.0
Unit fuse [A]	16	16	16	16
Phase (Nominal voltage)	1~	1~	1~	1~
<b>Measures</b>				
Interior volume [L]	53	53	53	53
Net weight of the unit (empty) [kg]	63	65	65	68
Permitted load [kg]	30	30	30	30
Load per rack [kg]	10	10	10	10
Wall clearance back [mm]	100	100	100	100
Wall clearance sidewise [mm]	50	50	50	50

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	CB060UL-120V <sup>1</sup>	CB060UL-120V-O <sup>1</sup>	CB060UL-120V-G <sup>1</sup>	CB060UL-120V-GO <sup>1</sup>
Article Number	9040-0089	9040-0091	9040-0105	9040-0107
<b>Internal Dimensions</b>				
Width [mm]	400	400	400	400
Height [mm]	400	400	400	400
Depth [mm]	330	330	330	330
<b>Doors</b>				
Inner doors	1	1	4	4
Unit doors	1	1	1	1
<b>Housing dimensions not incl. fittings and connections</b>				
Width net [mm]	580	580	580	580
Height net [mm]	720	720	720	720
Depth net [mm]	545	545	545	545
<b>Environment-specific data</b>				
Energy consumption at 37 °C [Wh/h]	80	80	80	80
<b>Fixtures</b>				
Number of shelves (std./max.)	2/3	2/3	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.
Access port with silicone plug	back		
	30 mm	01	8012-1390
	left		
	30 mm	01	8012-1391
	right		
	30 mm	01	8012-1392
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, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	-	8012-1113
	for temperature, measurement in center of chamber at specified temperature	-	8012-1132
Calibration certificate, temperature	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

\* Notes › See last page

Designation	Description	*	Art.-No.
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
Electric access port	8-pin, for low voltage with LEMO socket (coverable) and LEMO plug (max. 24 V – 2 A)	-	8012-0826
Interior socket	waterproof, switched flush-mounting box (LEMO) for nominal voltage in unit interior, coverable, with corresponding plug (nominal voltage; max. 3 A; protection class IP65)	07	8012-0823
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	-	8012-1106

\* Notes › See last page

## ACCESSORIES

Designation	Description	*	Art.-No.
APT-COM™ 4 BASIC-Edition	for simple logging and documentation requirements with up to 5 networked units. version 4, BASIC edition	19	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	19	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	19	9053-0040
Base	the base equipped with casters is used for the secure positioning and leveling of a BINDER CO <sub>2</sub> incubator	-	9051-0031
Gas cylinder connection set	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
Gas tank changer	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
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-0016
Qualification documents	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
Rubber pads	set anti-slip feet	-	8012-0702
Shelf, perforated	Stainless steel	-	6004-0136
	for divided inner door stainless steel	-	6004-0140
Stacking adapter	for the thermally isolated stacking of two BINDER CO <sub>2</sub> incubators	-	9051-0037

\* Notes › See last page

## SERVICES

Designation	Description	*	Art.-No.
<b>Installation services</b>			
Unit installation	Unpacking and setting up of unit, connecting to existing connections, and checking function	13, 18	DL10-0100
Unit instructions	Unit function instructions for operation and programming of the controller	18	DL10-0500
<b>Preventive maintenance</b>			
Maintenance	Functional testing of all electrical and mechanical components, short calibration, documentation in the maintenance schedule	14, 18	DL20-0400

\* Notes › See last page

Designation	Description	*	Art.-No.
<b>Calibration services</b>			
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	14, 16, 17, 18	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	14, 16, 17, 18	DL30-0402
Temperature calibration	Expansion – including certificate, each additional measuring point in center of chamber at specified test temperature	14, 16, 17, 18	DL30-0102
	Temperature calibration with 1 measuring point in center of chamber at a specified test temperature, including certificate	14, 16, 17, 18	DL30-0101
Temperature measurement, 18 measuring points	Temperature measurement with 18 measuring points at a specified test temperature, including certificate	14, 16, 17, 18	DL30-0118
Temperature measurement, 27 measuring points	Temperature measurement with 27 measuring points at a specified test temperature, including certificate	14, 16, 17, 18	DL30-0127
Temperature measurement, 9 measuring points	Temperature measurement with 9 measuring points at a specified test temperature, including certificate	14, 16, 17, 18	DL30-0109
<b>Validation services</b>			
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder	15, 18	DL41-0200
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder	15, 18	DL44-0500
<b>Warranty service</b>			
Warranty extension from 2 to 3 years	The warranty is extended from 2 to 3 years from the delivery date, wear parts are excluded	–	DL02-1041
Warranty extension from 2 to 5 years	The warranty is extended from 2 to 5 years from the delivery date, wear parts are excluded	–	DL02-1042

\* 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 Heat resistant only to max. 200 °C.
- 04 Only available on units rated for 230 V.
- 07 The additional heat input may affect the temperature behavior.
- 09 Not in conjunction with the optional access port, door with window and interior lighting.
- 10 Not available on 23-liter units.
- 11 Not available on 23- or 53-liter units.
- 12 Only available on units rated for 230 V or 400 V.
- 13 Installation and connections take place at unit location; transport within the company only upon consultation.
- 14 We recommend a BINDER service contract to cover unit inspections, calibrations and validations.
- 15 OQ according to Yellow Paper = completed factory validation documentation of all OQ checklists.
- 16 Sensor calibration is performed in an accredited calibration laboratory.
- 17 Calibration is performed according to the BINDER factory standard.
- 18 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).
- 19 For additional accessories, refer to the Process documentation chapter.

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