Model CB 170 | CO_2 incubators with hot air sterilization and heat sterilizable CO_2 sensor

The BINDER CB series CO_2 incubator is the premium class among the CO_2 incubators. It is suitable for all sensitive incubation applications and ensures optimal cell growth. A BINDER CO_2 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

- Temperature range: +4 °C above ambient temperature to +60 °C
- Humidity range: 90 to 95% RH
- CO_2 control range: 0 to 20 vol% CO_2
- O_2 control range: 0.2 to 20 vol% O_2 for versions with O_2 control
- Alternative O_2 control range: 10 to 95 vol% O_2, option for versions with O_2 control
- Humidity control range: 50–95% relative humidity for model variants with active humidification
- Tried-and-tested anti-contamination concept with 180 °C hot air sterilization
- Hot-air sterilizable CO_2 sensor with single-beam infrared technology
- CO_2 gas-mixing jet with Venturi effect
- Intuitive touchscreen controller
- Internal data recording, can be read out in open format via USB interface
- Optimized double-pan humidification system with condensation protection
- 170 liters of extra space in the interior while maintaining the same footprint
- Stacking height of just 1.80 m for easy use of the top unit
- Fail-safe CO_2 automatic diagnosis system for protecting the pH of cell cultures
- DuoDoor™ system: Unit door and glass door can be opened with one handle
- Lockable door handle
- Computer interface: Ethernet
- Zero-voltage alarm contact
- Tightly sealed inner door made of tempered safety glass
- 3 perforated shelves, stainless steel
- Units are stackable with stacking adapter

OPTIONAL EQUIPMENT

- Versions with O_2 control range: 0.2 to 20 vol.% O_2 or 10 to 95 vol.% O_2
- Versions with humidity control range: 50 to 95% RH due to active humidification
- Convenient water supply with reusable tubular bags, pre-filled single-liter water bottle, or water container set with magnetic holder, for versions with active humidification
- Multi-sectional glass doors with special shelves for dividing up the space to accommodate different experiments
- Stacking adapter for secure, space-saving installation
- CO_2 gas tank changer for connecting two gas tanks to one or two incubators
- CO_2 shaker with corrosion-resistant components in a stainless-steel housing
- APT-COM Multi Management Software – for managing, recording, and documenting unit parameters
- Services – wide range of services to ensure that the unit functions correctly

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 O_2 control	CB170-230V-O	9640-0010
	100...120 V 1~ ph 50/60 Hz	Standard	CB170UL-120V	9640-0011
		with O_2 control	CB170UL-120V-O	9640-0012

TECHNICAL DATA

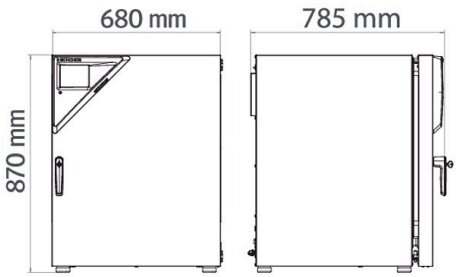
Description	CB170-230V[1]	CB170-230V-O[1]	CB170UL-120V[1]	CB170UL-120V-O[1]
Article Number	**9640-0009**	**9640-0010**	**9640-0011**	**9640-0012**
Performance Data Temperature				
Temperature range +4 °C above ambient temperature to	60		60	
Temperature range +6 °C above ambient temperature to		60		60
Temperature variation at 37 °C [± K]	0.3	0.4	0.3	0.4
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]	6	6	6	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.

Description	CB170-230V[1]	CB170-230V-O[1]	CB170UL-120V[1]	CB170UL-120V-O[1]
Article Number	**9640-0009**	**9640-0010**	**9640-0011**	**9640-0012**
Performance Data Climate				
Humidity range [% RH]	90...95	90...95	90...95	90...95
CO_2-Data				
CO_2 range [Vol.-% CO_2]	0...20	0...20	0...20	0...20
CO_2 measurement	IR	IR	IR	IR
CO_2 Recovery time after 30 seconds door open at 5 Vol.-% CO_2 [min]	5	5	5	5
O_2-Data				
Standard O_2 control ranges: O_2 range [Vol.-% O_2]		0.2...20		0.2...20
O_2 control ranges with option: O_2 range [Vol.-% O_2]		10...95		10...95
O_2 Recovery time after 30 seconds door open at 5 Vol.-% O_2 [min]		10		10
Electrical data				
Rated Voltage [V]	200...230	200...230	100...120	100...120
Power frequency [Hz]	50/60	50/60	50/60	50/60
Nominal power [kW]	1.4	1.4	1.4	1.4
Unit fuse [A]	10	10	16	16
Phase (Nominal voltage)	1~	1~	1~	1~
Measures				
Interior volume [L]	170	170	170	170
Net weight of the unit (empty) [kg]	98	98	98	98
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
Internal Dimensions				
Width [mm]	560	560	560	560
Height [mm]	600	600	600	600
Depth [mm]	505	505	505	505
Doors				
Inner doors	1	1	1	1
Unit doors	1	1	1	1
Housing dimensions not incl. fittings and connections				
Width net [mm]	680	680	680	680
Height net [mm]	870	870	870	870
Depth net [mm]	715	715	715	715
Environment-specific data				
Energy consumption at 37 °C [Wh/h]	55	55	55	55
Sound-pressure level [dB(A)]	41	41	41	41
Fixtures				
Number of shelves (std./max.)	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	8012-1390 8612-0025
	left 30 mm	01	8612-0026
	right 30 mm	01	8612-0027
Analog output 4-20 mA	for temperature and CO_2 values (outputs not adjustable)	02	8612-0022
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_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
CELLROLL Set	modular, expandable roller bottle system for cell cultivation, 4 roller bottles For 4 roller bottles (8012-1885)For 6 roller bottles (8012-0572)	–	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	Internal door divided into 6 parts	–	8612-0030
O_2 control range	alternative to the standard range, for controlling O_2 concentrations between 10 and 95 vol. %, only in conjunction with option models with O_2 control	–	8612-0028
Quick sample access	vewing window (13 x 25 cm) in the inner door for quick access	–	8612-0032

* 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	–	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
Convenient water supply	Set consisting of 10 liter water container with magnetic holder, hose adapter with practical quick coupling and water stop function, flexible positioning, enables water to be supplied to multiple CB units simultaneously via a water container, not pre-filled. for versions with active humidification	–	8009-1128
Copper interior fittings	Set consisting of 3 shelves (all-copper) and a water pan (copper-plated),more information.	–	8012-1918

* Notes › See last page

Designation	Description	*	Art.-No.
Gas cylinder connection set	for CO_2, consisting of a gas tank pressure regulator with connection parts and 5-meter hose	–	8012-0014
	for N_2, consisting of a gas tank pressure regulator with connection parts and 5-meter hose	–	8012-0016
	for O_2, 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	–	8012-0408
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_2, O_2, 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_2, O_2 – 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
Shaker „Professional“	Shaker and controller equipped with LEMO connectors, exclusively for CB with electric access port, 100 – 240 V, 50/60 Hz	–	8012-1772
Shaker „Universal“	Shaker and controller connected via ribbon cable, universally applicable, 100 – 240 V, 50/60 Hz	–	8012-1771
Shelf, perforated	Stainless steel	–	6004-0137
	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
WLAN kit	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.
Installation services			
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
Maintenance contracts			
Maintenance services			
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_2 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
Calibration services			
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

* Notes › See last page

Designation	Description	*	Art.-No.
CO_2 calibration	CO_2 calibration at a specified value, measurements are taken with analyzed test gas at 5%, including certificate	03, 04, 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	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
Validation services			
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
Warranty service			
1-year warranty extension	The warranty is extended by 1 year from the delivery date, wear parts are excluded	–	DL50-0020

* 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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