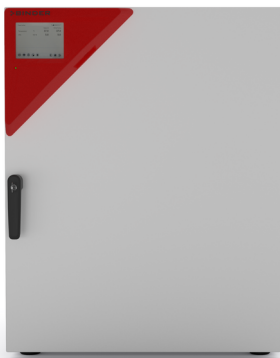


# Model CBF 170 | CO<sub>2</sub> incubators with hot air sterilization and humidity regulation

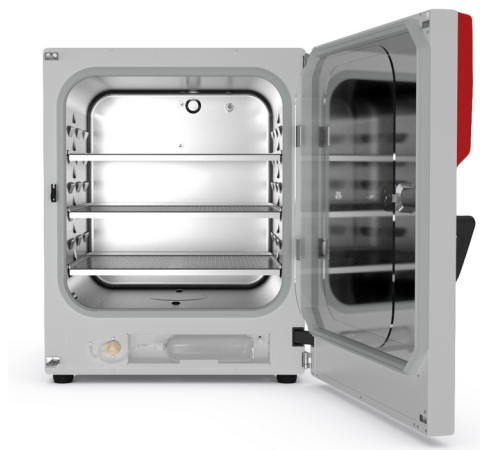
The BINDER CBF is the high-end CO<sub>2</sub> incubator with humidity control that is suitable for all sensitive incubation applications in GMP environments. It ensures consistent results including in cell-based assays with multiwell plates. This BINDER incubator is even suitable for complex cultivation 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

- Contamination-safe humidification system without water pan
- 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 logger, measured values can be read out in open format via USB
- Troubleshooting system with visual and acoustic alarms
- 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		Power supply - unit fuse	Plug*	Version	Model version	Art.-No.
[L]	[L]					
<b>Model CBF 170</b>						
170	170	200...230 V 1~ 50/60 Hz -10,0 A	CEE 7/7	Standard	CBF170-230V	9640-0017
				with O <sub>2</sub> control 0.2–20%	CBF170-230V-O	9640-0018
		100...120 V 1~ 50/60 Hz -16,0 A	NEMA 5-20	with O <sub>2</sub> control 0.2–20%	CBF170UL-120V-O	9640-0020

Interior volume		Power supply - unit fuse	Plug*	Version	Model version	Art.-No.
[L]	[L]					
				with active humidification	CBF170UL-120V	9640-0019

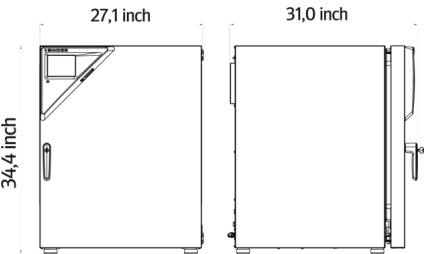
## TECHNICAL DATA

Data				
Designation	CBF170-230V	CBF170-230V-O	CBF170UL-120V	CBF170UL-120V-O
Article Number	9640-0017	9640-0018	9640-0019	9640-0020
Option model	Standard	with O <sub>2</sub> control 0.2–20%	with active humidification	with O <sub>2</sub> control 0.2–20%
Performance Data Temperature				
Temperature range	+6 °C above ambient temperature to 60 °C	+6 °C above ambient temperature to 60 °C	+6 °C above ambient temperature to 60 °C	+6 °C above ambient temperature to 60 °C
Temperature uniformity at 37°C	0.4 ± K	0.4 ± K	0.4 ± K	0.4 ± K
Temperature fluctuation at 37°C	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
Performance Data Climate				
Humidity range	50 ...95 % r.F.	50 ...95 % r.F.	50 ...95 % r.F.	50 ...95 % r.F.
Gas Data				
CO <sub>2</sub> range	0...20 Vol.-% CO <sub>2</sub>	0...20 Vol.-% CO <sub>2</sub>	0...20 Vol.-% CO <sub>2</sub>	0...20 Vol.-% CO <sub>2</sub>
CO <sub>2</sub> measuring technology	IR	IR	IR	IR
CO <sub>2</sub> recovery time after door was opened for 30 s at 5 vol. % CO <sub>2</sub>	5 min	5 min	5 min	5 min
Standard O <sub>2</sub> control range		0.2...20 Vol.-% O <sub>2</sub>		0.2...20 Vol.-% O <sub>2</sub>
O <sub>2</sub> control ranges with option: O <sub>2</sub> range		10...95 Vol.-% O <sub>2</sub>		10...95 Vol.-% O <sub>2</sub>
O <sub>2</sub> recovery time after door was opened for 30 s at 5 vol. % O <sub>2</sub>		12 min		12 min
Electrical data				
Rated Voltage	200...230 V	200...230 V	100...120 V	100...120 V
Power frequency	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
Unit fuse	10,0 A	10,0 A	16,0 A	16,0 A
Phase (Nominal voltage)	1~	1~	1~	1~
Measures				
Interior volume	170 L	170 L	170 L	170 L
Net weight of the unit (empty)	95 kg	95 kg	95 kg	95 kg

Load per rack	10 kg	10 kg	10 kg	10 kg
Permitted load	30 kg	30 kg	30 kg	30 kg
Wall clearance back	100 mm	100 mm	100 mm	100 mm
Wall clearance sidewise	50 mm	50 mm	50 mm	50 mm
Housing dimensions not incl. fittings and connections				
Width net	680 mm	680 mm	680 mm	680 mm
Height net	870 mm	870 mm	870 mm	870 mm
Depth net	715 mm	715 mm	715 mm	715 mm
Internal Dimensions				
Interior width	560 mm	560 mm	560 mm	560 mm
Interior height	600 mm	600 mm	600 mm	600 mm
Interior depth	500 mm	500 mm	500 mm	500 mm
Inner doors	1	1	1	1
Unit doors	1	1	1	1
Environment-specific data				
Sound-pressure level	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
Fixtures				
Number of shelves (std./max.)	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	CBF 170	*	Art.-No.
Access port with silicone plug	back			

Designation	Description	CBF 170	*	Art.-No.
	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
CELLROLL Set	modular, expandable roller bottle system for cell cultivation, 4 roller bottles	•	-	8612-0023
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 <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
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
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 90 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

## ACCESSORIES

Designation	Description	CBF 170	*	Art.-No.
APT-COM™ 4	Multi Management Software APT-COM™			
	version 4, BASIC edition	•	-	9053-0039
	version 4, GLP edition	•	-	9053-0042
	version 4, PROFESSIONAL edition	•	-	9053-0040

Designation	Description	CBF 170	*	Art.-No.
Base	the base equipped with casters is used for the secure positioning and leveling of a BINDER CO <sub>2</sub> 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.			
	External, with magnetic holder	•	-	8009-1128
Copper interior fittings	Set consisting of 3 shelves (all-copper) and a water pan (copper-plated)	•	-	8012-1918
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	•	-	8012-2344
Qualification documents	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
	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
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	•	-	8012-2167
	for divided inner door			
	Stainless steel, divided	•	-	8012-1888
Stacking adapter	for the thermally isolated stacking of two BINDER CO <sub>2</sub> 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

Designation	Description	CBF 170	*	Art.-No.
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.	•	-	8012-2262
Water supply	Set consisting of 10 bottles, each with 1,000 ml of sterile humidification water, including peristaltic tubing, connectors, and fine gas filters			
	for versions with active humidification	•	-	8009-1104
	Set consisting of 12 empty, refillable tubular bags including peristaltic tubing, connectors, and fine gas filters			
	for versions with active humidification	•	-	8012-2255
	Set consisting of 3 empty, refillable tubular bags including peristaltic tubing, connectors, and fine gas filters			
	for versions with active humidification	•	-	8012-2256
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	•	-	8012-2250

## SERVICES

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. Travel to be quoted separate.	-	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. Travel to be quoted separate.	-	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.	-	DL30-0101
	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.	-	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.	-	DL30-0109
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.	-	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.	-	DL30-0127
<b>Installation services</b>			
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.	-	DL10-0100
		-	DL10-0120

Designation	Description	*	Art.-No.
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	DL10-0500
		05	DL10-0510
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.	-	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	-	DL20-0940
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.	-	DL20-0400
		-	DL20-0450
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.	-	DL20-0820
Validation services			
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder. Travel to be quoted separate.	-	DL41-0210
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder. Travel to be quoted separate.	-	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

- 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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