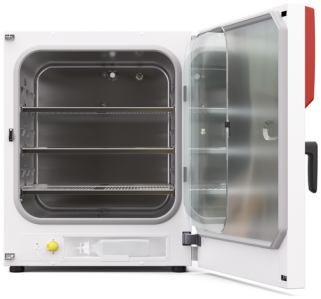
Model CBF 170 | CO2 incubators with hot air sterilization and humidity regulation

The BINDER CBF is the high-end CO_2 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



Model

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_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 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_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 CBF 170						
6	170	200...230 V 1~ 50/60 Hz -10,0 A	CEE 7/7	Standard	CBF170-230V	9040-0211
				with O_2 control 0.2–20%	CBF170-230V-O	9040-0212

Interior volume		Power supply - unit fuse	Plug*	Version	Model version	Art.-No.
[cu.ft.]	[L]					
		100...120 V 1~ 50/60 Hz -16,0 A	NEMA 5-20	with active humidification	CBF170UL-120V	9040-0213
				with O_2 control 0.2–20%	CBF170UL-120V-O	9040-0214

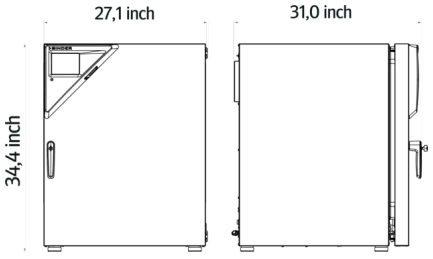
TECHNICAL DATA

Data				
Article Number	9040-0211	9040-0212	9040-0213	9040-0214
Designation	CBF170-230V	CBF170-230V-O	CBF170UL-120V	CBF170UL-120V-O
Option model	Standard	with O_2 control 0.2–20%	with active humidification	with O_2 control 0.2–20%
Performance Data Temperature				
Temperature range	+6 °C above ambient temperature to 50 °C	+6 °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	0.4 ± 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_2 range	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
CO_2 recovery time after door was opened for 30 s at 5 vol. % CO_2	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
O_2 control ranges with option: O_2 range		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		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~
Dimensions and weights				
Interior volume	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
Load per rack	22 lbs	22 lbs	22 lbs	22 lbs

Permitted load	66 lbs	66 lbs	66 lbs	66 lbs
Wall clearance back	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
Housing dimensions not incl. fittings and connections				
Width net	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
Depth net	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
Interior height	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
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.
	back			
Access port with silicone plug	30 mm	•	01	8012-1390
	left			

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

ACCESSORIES

Designation	Description	CBF 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

Designation	Description	CBF 170	*	Art.-No.
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
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
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
Qualification documents IQ/OQ	IQ/OQ documents digital in PDF format – supporting documents for validation consisting of: IQ/OQ checklists, comprehensive unit documentation covering:			
	temperature, CO_2 values and O_2 values. Excluded: Document execution is separate	•	-	7057-0014
	temperature, humidity,CO_2 and O_2. Excluded: Document execution is separate	•	-	7057-0024
	IQ/OQ documents digital in PDF format – supporting documents for validation consisting of: IQ/OQ checklists, comprehensive unit documentation covering:			
	temperature, humidity and CO_2. Excluded: Document execution is separate	•	-	7057-0023
	IQ/OQ documents digital in PDF format– supporting documents for validation consisting of: IQ/OQ checklists, comprehensive unit documentation covering:			
	temperature and CO_2 values. Excluded: Document execution is separate	•	-	7057-0013
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

Designation	Description	CBF 170	*	Art.-No.
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 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

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	DL30-0150
	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
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	05	DL30-0127

Designation	Description	*	Art.-No.
	shelves are required.		
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	DL10-0180
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	DL20-0965
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	DL20-0609
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	DL20-0865
Validation services			
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder. Travel to be quoted separate.	05	DL41-0210
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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