

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

The BINDER CBF is the high-end CO, 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

IMPORTANT FEATURES

- Contamination-safe humidification system without water pan
- Tried-and-tested anti-contamination concept with 180 °C hot air sterilization
- Hot-air sterilizable CO₂ sensor with single-beam infrared technology
- Seamless inner chamber made of stainless steel with flanges as shelf support Interfaces: Ethernet, USB, zero-voltage alarm contact system
- Fanless interior with Venturi CO₂ 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
- Fail-safe CO₂ 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 [L]	Power supply - unit fuse	Plug*	Version	Model version	ArtNo.
Model CBF 170					
	100 V 100 V 100 V 0 V 0 V 0 V 0 V 0 V 0	NEMA = 00	Standard	CBF170UL-120V	9640-0019
	-	with O ₂ control 0.2–20%	CBF170UL-120V-O	9640-0020	
170	200 220 V4 50/60 H7 40 0 A	CEE -/-	Standard	CBF170-230V	9640-0017
	200230 V 1~ 50/60 Hz -10,0 A	CEE 7/7	with O ₂ control 0.2–20%	CBF170-230V-0	9640-0018



TECHNICAL DATA

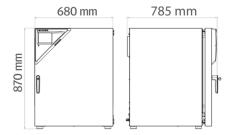
TECHNICAL DATA				
Data				
Designation	CBF170-230V	CBF170-230V-0	CBF170UL-120V	CBF170UL-120V-0
Article Number	9640-0017	9640-0018	9640-0019	9640-0020
Option model	Standard	with O ₂ control 0.2–20%	Standard	with O ₂ control 0.2–20%
Performance Data Temperature				
Temperature range	+6 °C above ambient 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	5095 % RH	5095 % RH	5095 % RH	5095 % RH
Gas Data				
CO ₂ range	o20 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		o.220 Vol% O ₂		o.220 Vol% O ₂
O ₂ control ranges with option: O ₂ range		1090 Vol% O ₂		1090 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	200230 V	200230 V	100120 V	100120 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	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. fittir	ngs and connections			
Width net	68o mm	68o mm	68o mm	68o 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

Access port with silicone plug

Designation	Description	CBF 170	*	ArtNo.
Access port with silicone plug	back			



Designation	Description	CBF 170	*	ArtNo.
	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 ₂ values (outputs not adjustable)	•	02	8612-0022
	for temperature, measurement in center of chamber at specified temperature	•	-	8012-1132
	temperature measurement incl. certificate, 9 measuring points at specified temperature	•	-	8012-1550
Calibration certificate, temperature	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
	for versions with $\rm O_2$ control; a measuring point in center of chamber at 80 Vol% $\rm O_2$	•	-	8012-2604
Calibration certificate O2	for versions with $\rm O_2$ control; a measuring point in center of chamber at 1 Vol% $\rm O_2$	•	-	8012-2603
CELLROLL Set	modular, expandable roller bottle system for cell cultivation, 4 roller bottles	•	-	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	Cell therapy compartmentalization, consisting of 6 inner doors and three shelf levels with one partition wall each	•	-	8612-0030
O ₂ control range	alternative to the standard range, for controlling $\rm O_2$ concentrations between 10 and 90 vol. %, only in conjunction with option models with $\rm O_2$ control	•	-	8612-0028
Quick sample access	vewing window (13 x 25 cm) in the inner door for quick access	•	-	8612-0032

ACCESSORIES

Designation	Description	CBF 170	*	ArtNo.
	for simple logging and documentation requirements with up to 5 networked units.			
APT-COM™ 4 BASIC-Edition	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.			



Description	CBF 170	*	ArtNo.
version 4, GLP edition	•	-	9053-0042
convenient unit and user management built on the BASIC edition. Suitable for networking up to 100 units.			
version 4, PROFESSIONAL edition	•	-	9053-0040
the base equipped with casters is used for the secure positioning and leveling of a $BINDER\ CO_2$ incubator	•	-	9051-0028
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 prefilled.			
for versions with active humidification	•	-	8009-1128
Set consisting of 3 shelves (all-copper) and a water pan (copper-plated)	•	-	8012-1918
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	8012-0016
for O_2 , consisting of a gas tank pressure regulator with connection parts and 5-meter hose	•	-	8012-0015
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
concentrated, for gentle remove of residual contaminants; 1 kg	•	-	8012-2250
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, $\mathrm{CO_2}$, $\mathrm{O_2}$ – 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, $\mathrm{CO_2}$, $\mathrm{O_2}$, pressure, depending on unit			
Digital in PDF format	•	-	7057-0001
Hard copy inside folder	•	-	7007-0001
set anti-slip feet	•	-	8012-0702
Shaker and controller equipped with LEMO connectors, exclusively for CB with electric access port, 100 – 240 V, 50/60 Hz	•	-	8012-1772
Shaker and controller connected via ribbon cable, universally applicable, 100 – 240 V, 50/60 Hz	•	-	8012-1771
Stainless steel	•	_	8012-2167
	version 4, GLP edition convenient unit and user management built on the BASIC edition. Suitable for networking up to 100 units. version 4, PROFESSIONAL edition the base equipped with casters is used for the secure positioning and leveling of a BINDER CO ₂ incubator 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 Set consisting of 3 shelves (all-copper) and a water pan (copper-plated) for CO ₂ , consisting of a gas tank pressure regulator with connection parts and 5-meter hose for N ₂ , consisting of a gas tank pressure regulator with connection parts and 5-meter hose for O ₂ , consisting of a gas tank pressure regulator with connection parts and 5-meter hose external, BINDER Gas Supply Service, for connecting 2 gas tanks (CO ₂ , N ₂ or O ₃), with audible and visual alarms, as well as zero-voltage alarm output concentrated, for gentle remove of residual contaminants; 1 kg 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 Hard copy inside folder 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 Hard copy inside folder Shaker and controller equipped with LEMO connectors, exclusively for CB with electric access port, 100 — 240 V, 50/60 Hz	version 4, GLP edition convenient unit and user management built on the BASiC edition. Suitable for networking up to 100 units. version 4, PROFESSIONAL edition the base equipped with casters is used for the secure positioning and leveling of a BINDER CO, incubator Set consisting of 10 liter water container with magnetic holder, hose adapter with practical quick coupling and water stop function. Rexible positioning, enables water to be supplied to multiple CB units simultaneously via a water container, not pre-filled. for versions with active humidification • The consisting of 3 shelves (all-copper) and a water pan (copper-plated) for CO _p , consisting of a gas tank pressure regulator with connection parts and 5-meter hose for N _p , consisting of a gas tank pressure regulator with connection parts and 5-meter hose for O _p , consisting of a gas tank pressure regulator with connection parts and 5-meter hose external, BINDER Gas Supply Service, for connecting 2 gas tanks (CO _p , N _p or O _p), with audible and visual alarms, as well as zero-voltage alarm output concentrated, for gentle remove of residual contaminants; 1 kg IQ/OQ/PQ documents — supporting documents for validation performed by customers, according to customer requirements, PQ section added to qualification folder IQ/Op, parameters: temperature, CO _p , O _p - or pressure, depending on unit Digital in PDF format Hard copy inside folder 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 _p , O _p pressure, depending on unit Digital in PDF format Hard copy inside folder set anti-slip feet Shaker and controller equipped with LEMO connectors, exclusively for CB with electric access port, 100 — 240 V, 50/60 Hz Shaker and controller connected via ribbon cable, universally applicable, 100 — 240 V, 50/60 Hz	version 4, GEI Pedition convenient unit and user management built on the BASIC edition. Suitable for networking up to 100 units. version 4, PROFESSIONAL edition the base equipped with casters is used for the secure positioning and leveling of a BINDER CO, incubator 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 Set consisting of 3 shelves (all-copper) and a water pan (copper-plated) for CO _o , consisting of a gas tank pressure regulator with connection parts and 5-meter hose for N _o , consisting of a gas tank pressure regulator with connection parts and 5-meter hose for O _o , consisting of a gas tank pressure regulator with connection parts and 5-meter hose for O _o , consisting of a gas tank pressure regulator with connection parts and 5-meter hose external, BINDER Gas Supply Service, for connecting 2 gas tanks (CO _o , N _o or O _o), with audible and visual alarms, as well as zero-voltage darm output concentrated, for gentle remove of residual contaminants, s. kg IQ/OO/PQ documents — supporting documents for validation performed by customers, according to customer requirements, Posection added to qualification folder IQ/OQ pecklists incl. calibration guide and comprehensive unit documentation; parameters: temperature, CO _o , O _o pressure, depending on unit Digital in PDF format Hard copy inside folder Shaker and controller equipped with LEMO connectors, exclusively for CB with electric access port, 100 — 240 V, 50/60 Hz Shaker and controller connected via ribbon cable, universally applicable, 100 — 240 V, 50/60 Hz



Designation	Description	CBF 170	*	ArtNo.
	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
	Set consisting of 6 bottles, each with 1,000 ml of sterile humidification water			
	for versions with active humidification	•	-	8009-1192
	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
Water supply	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	*	ArtNo.
Calibration services			
Calibration certificate, temperature	Calibration of one (1) test temperature specified by the user in center of chamber, including certificate	-	DL30-0150
Campration Certificate, temperature	Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate	-	DL30-0102
CO ₂ calibration	${\rm CO_2}$ calibration at a specified value, measurements are taken with analyzed test gas at 5%, including certificate	-	DL30-0401
O ₂ calibration	$\rm O_2$ calibration with 1 measuring point in center of chamber at a specified $\rm O_2$ percentage value, including certificate	-	DL30-0402
Temperature measurement, 9 measuring points	Temperature measurement with 9 measuring points with a set value specified by the user, including certificate	-	DL30-0109
Temperature measurement, 18 measuring points	Temperature measurement with 18 measuring points with a set value specified by the user, including certificate	-	DL30-0118
Temperature measurement, 27 measuring points	Temperature measurement with 27 measuring points with a set value specified by the user, including certificate	-	DL30-0127
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)	-	DL10-0120



Designation	Description	*	ArtNo.
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming	05	DL10-0510
Maintenance contracts			
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	-	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 test temperature specified by the user in the center of the usable space, including certificate	-	DL20-0965
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	-	DL20-0865
Maintenance services			
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	-	DL20-0609
Validation services			
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder	-	DL41-0210
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder	-	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

- O1 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.
- 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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