

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

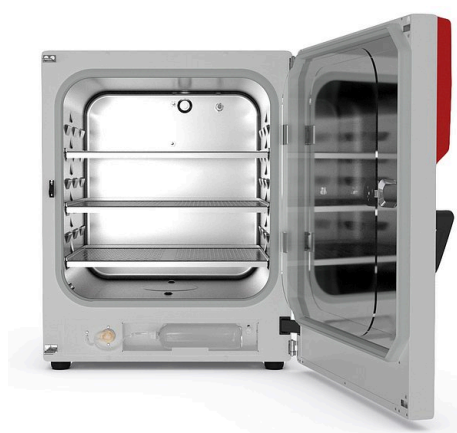
The BINDER CBF is the high-end CO₂ incubator with humidity control that is suitable for all sensitive incubation applications in GMP environments. It ensures consistent results including in cell-based assays with multiwell plates. This BINDER incubator is even suitable for complex cultivation experiments 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

MAIN 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 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
- Interfaces: Ethernet, USB, zero-voltage alarm contact
- Fail-safe CO₂ system for protecting the pH of cell cultures

OPTIONAL EQUIPMENT

- O₂ control with O₂ control ranges: 0.2 to 20 vol.% O₂ or 10 to 95 vol.% O₂
- 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 [cu.ft.] | Voltage | Option model | Version | Art.-No. |
|--------------------------|-------------------------|-------------------------------------|-----------------|-----------|
| 6 | 200...230 V 1~ 50/60 Hz | Standard | CBF170-230V | 9640-0017 |
| | | with O ₂ control 0.2–20% | CBF170-230V-O | 9640-0018 |
| | 100...120 V 1~ 50/60 Hz | with active humidification | CBF170UL-120V | 9640-0019 |
| | | with O ₂ control 0.2–20% | CBF170UL-120V-O | 9640-0020 |

TECHNICAL DATA

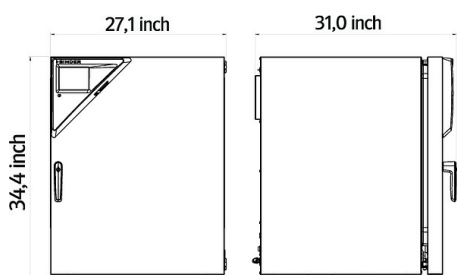
| Description | CBF170-230V ¹ | CBF170-230V-0 ¹ | CBF170UL-120V ¹ | CBF170UL-120V-0 ¹ |
|--|--------------------------|----------------------------|----------------------------|------------------------------|
| Article Number | 9640-0017 | 9640-0018 | 9640-0019 | 9640-0020 |
| Performance Data Temperature | | | | |
| Temperature range +6 °C above ambient temperature to | 60 °C | 60 °C | 60 °C | 60 °C |
| Temperature variation at 37 °C | 0,4 ± K | 0,4 ± K | 0,4 ± K | 0,4 ± K |
| 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 |
| Performance Data Climate | | | | |
| Humidity range | 90...95 | 90...95 | 90...95 | 90...95 |
| Humidity range with active humidification [% RH] | 50...95 | 50...95 | 50...95 | 50...95 |
| CO₂-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 |
| O₂-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] | | 12 | | 12 |
| 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 [cu.ft.] | 6 | 6 | 6 | 6 |
| Net weight of the unit (empty) [lbs] | 209 | 209 | 209 | 209 |
| Permitted load [lbs] | 66 | 66 | 66 | 66 |
| Load per rack [lbs] | 22 | 22 | 22 | 22 |
| Wall clearance back [in] | 3.94 | 3.94 | 3.94 | 3.94 |
| Wall clearance sidewise [in] | 1.97 | 1.97 | 1.97 | 1.97 |
| Internal Dimensions | | | | |
| Width [in] | 22.06 | 22.06 | 22.06 | 22.06 |
| Height [in] | 23.64 | 23.64 | 23.64 | 23.64 |
| Depth [in] | 19.9 | 19.9 | 19.9 | 19.9 |
| Doors | | | | |
| Inner doors | 1 | 1 | 1 | 1 |
| Unit doors | 1 | 1 | 1 | 1 |
| Housing dimensions not incl. fittings and connections | | | | |
| Width net [in] | 26.79 | 26.79 | 26.79 | 26.79 |
| Height net [in] | 34.28 | 34.28 | 34.28 | 34.28 |
| Depth net [in] | 28.17 | 28.17 | 28.17 | 28.17 |

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 | CBF170-230V ¹ | CBF170-230V-0 ¹ | CBF170UL-120V ¹ | CBF170UL-120V-0 ¹ |
|------------------------------------|--------------------------|----------------------------|----------------------------|------------------------------|
| Article Number | 9640-0017 | 9640-0018 | 9640-0019 | 9640-0020 |
| 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 | 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 O ₂ | for versions with O ₂ control; a measuring point in center of chamber at a specified O ₂ percentage value | - | 8012-0229 |
| 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 | - | 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 O ₂ concentrations between 10 and 95 vol. %, only in conjunction with option models with O ₂ control | - | 8612-0028 |
| Quick sample access | viewing window (13 x 25 cm) in the inner door for quick access | - | 8612-0032 |

* Notes › See last page

ACCESSORIES

| Designation | Description | * | Art.-No. |
|------------------------------------|--|---|-----------|
| 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. | | |
| | External, with magnetic holder | - | 8009-1128 |
| Copper interior fittings | Set consisting of 3 shelves (all-copper) and a water pan (copper-plated), more information. | - | 8012-1918 |
| | for CO ₂ , consisting of a gas tank pressure regulator with connection parts and 5-meter hose | - | 8012-0014 |
| Gas cylinder connection set | 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 |
| Multi Management Software | Multi Management Software APT-COM™ | | |
| | version 4, BASIC edition | - | 9053-0039 |
| | version 4, GLP edition | - | 9053-0042 |
| | version 4, PROFESSIONAL edition | - | 9053-0040 |
| 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 |
| 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 | - | 8009-1058 |
| | Set consisting of 3 empty, refillable tubular bags including peristaltic tubing, connectors, and fine gas filters | | |
| | for versions with active humidification | - | 8009-1083 |
| 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 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) | 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 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 | | | |
| 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 calibration | 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 |
| 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 | | | |
| Warranty extension from 2 to 3 years | 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).

BINDER GmbH

Tuttlingen, Germany
TEL +49 7462 2005 0
FAX +49 7462 2005 100
info@binder-world.com
www.binder-world.com

BINDER Asia Pacific (Hong Kong) Ltd.

Kowloon, Hong Kong, P.R. China
TEL +852 39070500
FAX +852 39070507
asia@binder-world.com
www.binder-world.com

Representative Office for CIS

Moscow, Russia
TEL +7 495 988 15 16
FAX +7 495 988 15 17
russia@binder-world.com
www.binder-world.com

**BINDER Environmental Testing
Equipment (Shanghai) Co., Ltd.**

Shanghai, P.R. China
TEL +86 21 685 808 25
FAX +86 21 685 808 29
china@binder-world.com
www.binder-world.com

BINDER Inc.

Bohemia, NY, USA
TEL +1 631 224 4340
FAX +1 631 224 4354
usa@binder-world.com
www.binder-world.us