

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

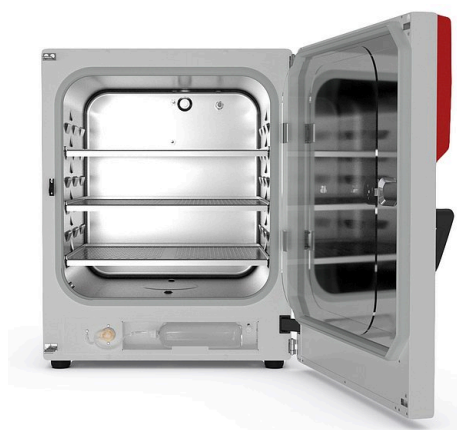
The BINDER CB series CO<sub>2</sub> incubator is the premium class among the CO<sub>2</sub> incubators. It is suitable for all sensitive incubation applications and ensures optimal cell growth. A BINDER CO<sub>2</sub> incubator of the CB series is up to even complex cultivation experiments or individual 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

- 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 [L] | Voltage                    | Option model                        | Version         | Art.-No.  |
|---------------------|----------------------------|-------------------------------------|-----------------|-----------|
| 170                 | 200...230 V 1~ ph 50/60 Hz | Standard                            | CBF170-230V     | 9640-0017 |
|                     |                            | with O <sub>2</sub> control 0.2–20% | CBF170-230V-O   | 9640-0018 |
|                     | 100...120 V 1~ ph 50/60 Hz | Standard                            | CBF170UL-120V   | 9640-0019 |
|                     |                            | with O <sub>2</sub> control 0.2–20% | CBF170UL-120V-O | 9640-0020 |

**TECHNICAL DATA**

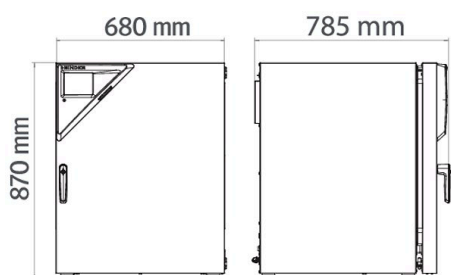
| Description   | CBF170-230V <sup>1</sup> | CBF170-230V-0 <sup>1</sup> | CBF170UL-120V <sup>1</sup> | CBF170UL-120V-0 <sup>1</sup> |
|---|--------------------------|----------------------------|----------------------------|------------------------------|
| Article Number  | 9640-0017                | 9640-0018                  | 9640-0019                  | 9640-0020                    |
| <b>Performance Data Temperature</b>   |                          |                            |                            |                              |
| Temperature range +6 °C above ambient temperature to [°C]                                   | 60                       | 60                         | 60                         | 60                           |
| Temperature variation at 37 °C [± K]  | 0.4                      | 0.4                        | 0.4                        | 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                            |
| <b>Performance Data Climate</b>   |                          |                            |                            |                              |
| Humidity range  | 50...95                  | 50...95                    | 50...95                    | 50...95                      |
| <b>CO<sub>2</sub>-Data</b>  |                          |                            |                            |                              |
| CO <sub>2</sub> range [Vol.-% CO <sub>2</sub> ]   | 0...20                   | 0...20                     | 0...20                     | 0...20                       |
| CO <sub>2</sub> measurement   | IR                       | IR                         | IR                         | IR                           |
| <b>O<sub>2</sub>-Data</b>   |                          |                            |                            |                              |
| Standard O <sub>2</sub> control ranges: O <sub>2</sub> range [Vol.-% O <sub>2</sub> ]       |                          | 0.2...20                   |                            | 0.2...20                     |
| O <sub>2</sub> -Regelbereich durch Option: O <sub>2</sub> -Bereich [Vol.-% O <sub>2</sub> ] |                          | 10...95                    |                            | 10...95                      |
| <b>Tabellen</b>   |                          |                            |                            |                              |
| CO <sub>2</sub> Recovery time after 30 seconds door open at 5 Vol.-% CO <sub>2</sub> [min]  | 5                        | 5                          | 5                          | 5                            |
| O <sub>2</sub> Recovery time after 30 seconds door open at 5 Vol.-% O <sub>2</sub> [min]    |                          | 12                         |                            | 12                           |
| <b>Electrical data</b>  |                          |                            |                            |                              |
| 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~                           |
| <b>Measures</b>   |                          |                            |                            |                              |
| Interior volume [L]   | 170                      | 170                        | 170                        | 170                          |
| Net weight of the unit (empty) [kg]   | 95                       | 95                         | 95                         | 95                           |
| 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                           |
| <b>Internal Dimensions</b>  |                          |                            |                            |                              |
| Width [mm]  | 560                      | 560                        | 560                        | 560                          |
| Height [mm]   | 600                      | 600                        | 600                        | 600                          |
| Depth [mm]  | 505                      | 505                        | 505                        | 505                          |
| <b>Doors</b>  |                          |                            |                            |                              |
| Inner doors   | 1                        | 1                          | 1                          | 1                            |
| Unit doors  | 1                        | 1                          | 1                          | 1                            |
| <b>Housing dimensions not incl. fittings and connections</b>                                |                          |                            |                            |                              |
| Width net [mm]  | 680                      | 680                        | 680                        | 680                          |
| Height net [mm]   | 870                      | 870                        | 870                        | 870                          |
| Depth net [mm]  | 715                      | 715                        | 715                        | 715                          |

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 <sup>1</sup> | CBF170-230V-0 <sup>1</sup> | CBF170UL-120V <sup>1</sup> | CBF170UL-120V-0 <sup>1</sup> |
|-------------------------------|--------------------------|----------------------------|----------------------------|------------------------------|
| Article Number                | 9640-0017                | 9640-0018                  | 9640-0019                  | 9640-0020                    |
| Environment-specific data     |                          |                            |                            |                              |
| Sound-pressure level [dB(A)]  | 41                       | 41                         | 41                         | 41                           |
| Fixtures                      |                          |                            |                            |                              |
| Number of shelves (std./max.) | 3/6                      | 3/6                        | 3/6                        | 3/6                          |

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## DIMENSIONS incl. fittings and connections [mm]



## OPTIONS

| Designation  | Description   | *  | Art.-No.  |
|--|---|----|-----------|
| Access port with silicone plug                           | back<br>30 mm   | 01 | 8612-0025 |
|  | left<br>30 mm   | 01 | 8612-0026 |
|  | right<br>30 mm  | 01 | 8612-0027 |
| Analog output 4-20 mA                                    | for temperature and CO <sub>2</sub> values (outputs not adjustable)   | 02 | 8612-0022 |
| 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 |
| 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 <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 |
| 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 <sub>2</sub> control range                             | alternative to the standard range, for controlling O <sub>2</sub> concentrations between 10 and 95 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 |

\* 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.<br>version 4, BASIC edition | - | 9053-0039 |

\* Notes › See last page

| Designation                            | Description  | * | Art.-No.  |
|--|--|---|-----------|
| <b>APT-COM™ 4 GLP-Edition</b>          | 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.<br>version 4, GLP edition  | - | 9053-0042 |
| <b>APT-COM™ 4 PROFESSIONAL-Edition</b> | convenient unit and user management built on the BASIC edition. Suitable for networking up to 100 units.<br>version 4, PROFESSIONAL edition  | - | 9053-0040 |
| <b>Base</b>                            | the base equipped with casters is used for the secure positioning and leveling of a BINDER CO <sub>2</sub> incubator   | - | 9051-0028 |
| <b>Convenient water supply</b>         | 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.<br>for versions with active humidification  | - | 8009-1128 |
| <b>Copper interior fittings</b>        | Set consisting of 3 shelves (all-copper) and a water pan (copper-plated), more information.  | - | 8012-1918 |
| <b>Gas cylinder connection set</b>     | 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 |
| <b>Gas tank changer</b>                | 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  | - | 8012-0408 |
| <b>pH-neutral detergent</b>            | concentrated, for gentle remove of residual contaminants; 1 kg   | - | 1002-0016 |
| <b>Qualification documents</b>         | 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<br>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 <sub>2</sub> , O <sub>2</sub> – or pressure, depending on unit<br>Digital in PDF format   | - | 7057-0005 |
|  | Hard copy inside folder  | - | 7007-0005 |
| <b>Rubber pads</b>                     | set anti-slip feet   | - | 8012-0702 |
| <b>Shaker „Professional“</b>           | Shaker and controller equipped with LEMO connectors, exclusively for CB with electric access port, 100 – 240 V, 50/60 Hz   | - | 8012-1772 |
| <b>Shaker „Universal“</b>              | Shaker and controller connected via ribbon cable, universally applicable, 100 – 240 V, 50/60 Hz  | - | 8012-1771 |
|  | Stainless steel  | - | 6004-0137 |
| <b>Shelf, perforated</b>               | for divided inner door   | - | -         |
|  | Stainless steel, divided   | - | 8012-1888 |
| <b>Stacking adapter</b>                | for the thermally isolated stacking of two BINDER CO <sub>2</sub> incubators   | - | 9051-0035 |
| <b>Stacking frame</b>                  | stable, vibration-free stacking frame on casters with stop brake for safe stacking of two CB series units  | - | 9051-0040 |
| <b>Water supply</b>                    | Set consisting of 10 bottles, each with 1,000 ml of sterile humidification water, including peristaltic tubing, connectors, and fine gas filters<br>for versions with active humidification  | - | 8009-1104 |
|  | Set consisting of 12 empty, refillable tubular bags including peristaltic tubing, connectors, and fine gas filters<br>for versions with active humidification  | - | 8009-1058 |
|  | Set consisting of 3 empty, refillable tubular bags including peristaltic tubing, connectors, and fine gas filters<br>for versions with active humidification   | - | 8009-1083 |
|  |  | - | -         |
| <b>WLAN kit</b>                        | 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.  |
|--|--|------------|-----------|
| <b>Installation services</b>                 |  |            |           |
| 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 |
| <b>Maintenance contracts</b>                 |  |            |           |
| <b>Maintenance services</b>                  |  |            |           |
| 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, replacement of wear parts, calibration of one temperature and CO <sub>2</sub> 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 |
| <b>Calibration services</b>                  |  |            |           |
| 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 |
| 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   | 03, 04, 05 | 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   | 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 |
| <b>Validation services</b>                   |  |            |           |
| 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 |
| <b>Warranty service</b>                      |  |            |           |
| 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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