

# Model C 170 | CO<sub>2</sub> incubators with hot air sterilization

Series C incubators are suitable for routine cell cultivation applications: They are free from contamination due to 180 °C hot-air sterilization and reliable pH stability thanks to the drift-free infrared CO<sub>2</sub> measurement system.

## BENEFITS

- Minimum risk of contamination thanks to 180 °C hot-air sterilization
- Stable pH values thanks to drift-free CO<sub>2</sub> IR sensor technology
- High humidity up to 95% RH
- Simple and fast cleaning thanks to a seamlessly deep-drawn inner chamber



Model 170



Model 170

## MAIN FEATURES

- Temperature range: room temperature plus 7 °C to 50 °C
- Humidity range: up to 95 % RH
- Auto-sterilization with hot air at 180 °C
- Humidification system with condensation protection
- CO<sub>2</sub> gas-mixing jet with Venturi effect
- CO<sub>2</sub> sensor with infrared technology
- Display with 3-digit, 7-segment LEDs
- Door hinged right or left
- Tightly-sealed inner door made of tempered safety glass
- Seamless, deep-drawn inner stainless steel chamber
- 3 perforated stainless steel shelves
- Units are stackable with stacking adapter
- Troubleshooting system with visual and audible alarms
- Zero-voltage alarm contact

## ORDERING INFORMATION

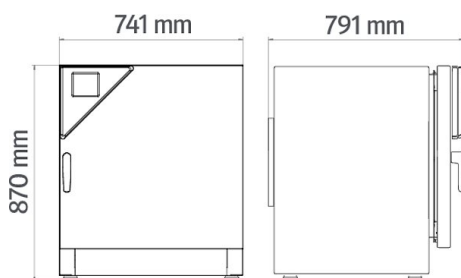
Interior volume [cu.ft.]	Voltage	Option model	Version	Art.-No.
Model C 170				
5.9	230 V 1~ 50/60 Hz	Door hinged right	C170-230V-R	9040-0112
		Door hinged left	C170-230V-L	9040-0115
	120 V 1~ 60 Hz	Door hinged right	C170UL-120V-R	9040-0113
		Door hinged left	C170UL-120V-L	9040-0116

## TECHNICAL DATA

Description	C170-230V-R <sup>1</sup>	C170-230V-L <sup>1</sup>	C170UL-120V-R <sup>1</sup>	C170UL-120V-L <sup>1</sup>
Article Number	9040-0112	9040-0115	9040-0113	9040-0116
<b>Performance Data Temperature</b>				
Temperature range 7 °C above ambient temperature to [°C]	50	50	50	50
Temperature variation at 37 °C [± K]	0.3	0.3	0.3	0.3
Temperature fluctuation [± 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 [% RH]	90...95	90...95	90...95	90...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
CO <sub>2</sub> Recovery time after 30 seconds door open at 5 Vol.-% CO <sub>2</sub> [min]	7	7	7	7
<b>Electrical data</b>				
Rated Voltage [V]	230	230	120	120
Power frequency [Hz]	50/60	50/60	60	60
Nominal power [kW]	1.1	1.1	1.1	1.1
Unit fuse [A]	10	10	10	10
Phase (Nominal voltage)	1~	1~	1~	1~
<b>Outer dimensions</b>				
Width net [in]	29.16	29.16	29.16	29.16
Height net [in]	34.28	34.28	34.28	34.28
Depth net [in]	28.17	28.17	28.17	28.17
Wall clearance back [in]	3.94	3.94	3.94	3.94
Wall clearance sidewise [in]	1.97	1.97	1.97	1.97
<b>Doors</b>				
Inner doors	1	1	1	1
Unit doors	1	1	1	1
<b>Internal Dimensions</b>				
Width [in]	22.06	22.06	22.06	22.06
Height [in]	23.64	23.64	23.64	23.64
Depth [in]	19.7	19.7	19.7	19.7
<b>Measures</b>				
Interior volume [cu.ft.]	5.9	5.9	5.9	5.9
Net weight of the unit (empty) [lbs]	212	212	212	212
Load per rack [lbs]	22	22	22	22
<b>Environment-specific data</b>				
Energy consumption at 37 °C [Wh/h]	90	90	90	90
<b>Fixtures</b>				
Number of shelves (std./max.)	3/8	3/8	3/8	3/8

<sup>1</sup> 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 in accordance 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 AND ACCESSORIES

Designation	Description	*	Art.-No.
Access port with silicone plug	back 30 mm	01	8012-0558
	left 30 mm	01	8012-0559
	right 30 mm	01	8012-0560
Analog output 4-20 mA	for temperature and CO <sub>2</sub> values (outputs not adjustable)	02	8012-0742
APT-COM™ 4 BASIC-Edition	for simple logging and documentation requirements with up to 5 networked units. version 4, BASIC edition	19	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	19	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	19	9053-0040
Base	with casters, height-adjustable, with unit feet retainer	-	9051-0029
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	-	8012-1112
Calibration certificate, temperature	for temperature, measurement in center of chamber at specified temperature	-	8012-1131
	temperature measurement incl. certificate and 27 measuring points at specified temperature	-	8012-1591
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	-	8012-1570
	temperature measurement incl. certificate, 9 measuring points at specified temperature	-	8012-1549
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>	-	8012-0228
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
Copper interior fittings	Set consisting of 3 shelves (all-copper) and a water pan (copper-plated), more information.	-	8012-1765
Door lock	lockable door handle	-	8012-1014
Ethernet interface	for Multi Management Software APT-COM™	-	8012-0604
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
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	-	8012-0408
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-0016
Rubber pads	set anti-slip feet	-	8012-0702
Shelf, perforated	Stainless steel	-	6004-0142
Stacking adapter, flat	for thermally decoupled stacking of two identical units	-	9051-0036

\* Notes › See last page

## SERVICES

Designation	Description	*	Art.-No.
<b>Installation services</b>			
Installation	and set up of unit at operating location, connect to existing connections	13, 18	DL10-0100
Instruction	unit function instructions for operation and programming of the controller	18	DL10-0500
<b>Preventive maintenance</b>			
Preventive maintenance	Executive of equipment inspection according to maintenance plan	14, 18	DL20-0400
<b>Calibration services</b>			
Calibration CO <sub>2</sub>	including certificate, CO <sub>2</sub> measurement with analyzed test gas at 5 % or at specified value	14, 16, 17, 18	DL30-0401
Calibration temperature incl. certificate	including certificate, one measuring point in center of chamber at specified temperature	14, 16, 17, 18	DL30-0101
Temperature measurement 18 measuring points	including certificate, 18 measuring points at specified temperature	14, 16, 17, 18	DL30-0118
Temperature measurement 27 measuring points	including certificate, 27 measuring points at specified temperature	14, 16, 17, 18	DL30-0127
Temperature measurement 9 measuring points	including certificate, 9 measuring points at specified temperature	14, 16, 17, 18	DL30-0109
<b>Validation services</b>			
Execution of IQ/OQ	in accordance with qualification folder	15, 18, 20	DL41-0200
Execution of IQ/OQ/PQ	in accordance with customer's requirement, price: on request	15, 18	DL44-0500
Qualification folder IQ/OQ	supporting documents for validation performed by customer, consisting of: IQ/OQ checklists, unit schematics, QM certificate in accordance with ISO 9001	15, 18, 20	8012-0875
Qualification folder IQ/OQ/PQ	supporting documents for validation performed by customer, in accordance with customer's requirement, extension of Qualification folder IQ/OQ by chapter PQ	15, 18	8012-0962
<b>Warranty service</b>			
Extension of the warranty from 2 to 3 years	beginning with the date of delivery, wearing parts are not included	-	DL02-0041
Extension of the warranty from 2 to 5 years	beginning with the date of delivery, wearing parts are not included	-	DL02-0042

\* 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 Heat resistant only to max. 200 °C.
- 04 Only available on units rated for 230 V.
- 06 Heating-up time may increase as a result of the lower heat conductivity.
- 07 The additional heat input may affect the temperature behavior.
- 09 Not in conjunction with the optional access port, door with window and interior lighting.
- 10 Not available on 23-liter units.
- 11 Not available on 23- or 53-liter units.
- 12 Only available on units rated for 230 V or 400 V.
- 13 Installation and connections take place at unit location; transport within the company only upon consultation.
- 14 We recommend a BINDER service contract to cover unit inspections, calibrations and validations.
- 15 OQ according to Yellow Paper = completed factory validation documentation of all OQ checklists.
- 16 Sensor calibration is performed in an accredited calibration laboratory.
- 17 Calibration is performed according to the BINDER factory standard.
- 18 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).
- 19 For additional accessories, refer to the Process documentation chapter.
- 20 When ordering IQ/OQ qualification folders and associated IQ/OQ execution on one order, we offer a 15 % discount for the item of the IQ/OQ folder.  
When ordering IQ/OQ/PQ qualification folders and associated IQ/OQ/PQ execution on one order, we offer a 15 % discount for the item of the IQ/OQ/PQ folder.

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