

# Model CB 56 | CO2 incubators with hot air sterilization and heat sterilizable CO2 sensor

The powerful and versatile CB CO<sub>2</sub> incubator is suitable for cell-based assays in drug and medical research. 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 56 Model 56

**IMPORTANT FEATURES** 

- Optimized humidification system with condensation protection
- 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 Interfaces: Ethernet, USB, zero-voltage alarm contact system
- Fanless interior with Venturi CO<sub>2</sub> gas mixing nozzle

- · Intuitive touchscreen controller
- Internal data recording, can be read out in open format via USB interface
- Fault diagnosis system with visual and acoustic alarm
- Fail-safe CO<sub>2</sub> system for protecting the pH of cell cultures

#### **OPTIONAL EQUIPMENT**

- 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 CB 56					
	100120 V 1~ 50/60 Hz -16,0 A	NEMA 5-20	Standard	CB056UL-120V	9640-0007
53	200230 V 1~ 50/60 Hz -10,0 A	CEE 7/7	Standard	CB056-230V	9640-0005



# TECHNICAL DATA

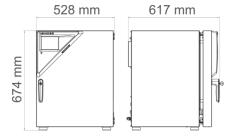
TECHNICAL DATA					
Data					
Designation	CB056-230V	CB056UL-120V			
Article Number	9640-0005	9640-0007			
Option model	Standard	Standard			
Performance Data Temperature					
Temperature range	+4 °C above ambient temperature to 60 °C	+4 °C above ambient temperature to 60 °C			
Temperature uniformity at 37°C	0.3 ± K	0.3 ± K			
Temperature fluctuation at 37°C	0.1 ± K	0.1 ± K			
Recovery time after door was opened for 30 s at 37°C	5 min	5 min			
Performance Data Climate					
Humidity range	9095 % RH	9095 % RH			
Gas Data					
CO <sub>2</sub> range	o20 Vol% CO <sub>2</sub>	o20 Vol% CO <sub>2</sub>			
CO <sub>2</sub> measuring technology	IR	IR			
$\mathrm{CO_2}$ recovery time after door was opened for 30 s at 5 vol. % $\mathrm{CO_2}$	5 min	5 min			
Electrical data					
Rated Voltage	200230 V	100120 V			
Power frequency	50/60 Hz	50/60 Hz			
Nominal power	o,8 kW	o,8 kW			
Unit fuse	10,0 Å	16,0 A			
Phase (Nominal voltage)	1~	1~			
Dimensions and weights					
Interior volume	53 L	53 L			
Net weight of the unit (empty)	53 kg	53 kg			
Load per rack	10 kg	10 kg			
Permitted load	30 kg	30 kg			
Wall clearance back	100 mm	100 mm			
Wall clearance sidewise	50 mm	50 mm			
Housing dimensions not incl. fittings and connections					



Width net	528 mm	528 mm
Height net	674 mm	674 mm
Depth net	545 mm	545 mm
Internal Dimensions		
Interior width	400 mm	400 mm
Interior height	400 mm	400 mm
Interior depth	330 mm	330 mm
Inner doors	1	1
Unit doors	1	1
Environment-specific data		
Sound-pressure level	41 dB(A)	41 dB(A)
Energy consumption at 37°C	45 Wh/h	45 Wh/h
Fixtures		
Number of shelves (std./max.)	2/3	2/3

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	CB 56	*	ArtNo.
Access port with silicone plug	back			
	30 mm	•	01	8612-0025
	left			
	30 mm	•	01	8612-0026
	right			
	30 mm	•	01	8612-0027



Designation	Description	CB 56	*	ArtNo.
Analog output 4-20 mA	for temperature and CO <sub>2</sub> values (outputs not adjustable)		02	8612-0022
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 <sub>2</sub>	for temperature and $\rm CO_2$ , temperature measurement in center of chamber, $\rm CO_2$ measurement performed using test gas at 37 °C and 5 % $\rm CO_2$	•	-	8012-1235
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 4 inner doors and two shelf levels with one partition wall each	•	-	8612-0029

# ACCESSORIES

Designation	Description	CB 56	*	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.			
	version 4, GLP edition	•	-	9053-0042
APT-COM™ 4 PROFESSIONAL-	convenient unit and user management built on the BASIC edition. Suitable for networking up to 100 units.			
Edition	version 4, PROFESSIONAL edition	•	-	9053-0040
Base	the base equipped with casters is used for the secure positioning and leveling of a $BINDER\ CO_2$ incubator	•	-	9051-0043
Gas cylinder connection set	for ${\rm CO}_2$ , 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 ( ${\rm CO_2}$ , ${\rm N_2}$ or ${\rm O_2}$ ), 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/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



Designation	Description	CB 56	*	ArtNo.
	IQ/OQ documents – supporting documents for validation performed by customers, consisting of: IQ/OQ checklists incl. calibration guide and comprehensive unit documentation; parameters: temperature, ${\rm CO_2}$ , ${\rm O_2}$ , pressure, depending on unit			
	Digital in PDF format	•	-	7057-0001
	Hard copy inside folder	•	-	7007-0001
Rubber pads	set anti-slip feet	•	-	8012-0702
Shelf, perforated	Stainless steel	•	-	8012-2166
	for divided inner door			
	stainless steel	•	-	8012-2058
Stacking adapter	for the thermally isolated stacking of two BINDER $\mathrm{CO}_2$ incubators	•	-	9051-0038
	Set consisting of 6 bottles, each with 1,000 ml of sterile humidification water			
Water supply	for versions with active humidification	•	-	8009-1192

## **SERVICES**

Designation	Description	*	ArtNo.		
Calibration services					
Callibration partificate temporature	Calibration of one (1) test temperature specified by the user in center of chamber, including certificate	-	DL30-0140		
Calibration 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 <sub>2</sub> calibration	$\mathrm{CO_2}$ calibration at a specified value, measurements are taken with analyzed test gas at 5%, including certificate	-	DL30-0401		
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)	-	DL10-0110		
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		



Designation	Description	*	ArtNo.
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	-	DL20-0975
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	-	DL20-0875
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	-	DL20-0608
Validation services			
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder	-	DL41-0200
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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