

## Model KB 400 | Refrigerated incubators with powerful compressor cooling

The most versatile among the refrigerated incubators for microorganisms: The BINDER KB series refrigerated incubator controls temperature ranges of -10 °C to 100 °C. With its comprehensive program functions, this refrigerated incubator offers a wide range of capabilities and delivers reproducible test results.

### BENEFITS

- Safe, reproducible incubation, even at high ambient temperatures
- Disinfection routine at +100 °C
- Up to 30% lower energy consumption compared to the previous model



Model 400



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### IMPORTANT FEATURES

- Temperature range: -10 °C to +100 °C
- APT.line™ preheating chamber technology
- Up to 30% lower energy consumption compared to the previous model
- Refrigeration with compressor refrigerated unit
- Door heating
- Adjustable fan speed
- Controller with time-segment and real-time programming
- Inner door made of tempered safety glass
- 2 stainless steel racks
- 4 casters, two with locking brakes
- Access port with silicone plug, 30 mm, left
- Class 3.1 independent temperature safety device (DIN 12880) with visual and acoustic alarm
- Computer interface: Ethernet

### ORDERING INFORMATION

Interior volume	Power supply - unit fuse	Plug*	Version	Model version	Art.-No.
[L]	[L]				
<b>Model KB 400</b>					
400	400	200...240 V 1~ 50/60 Hz -16,0 A	CEE 7/7	Standard	KB400-230V
		100...120 V 1~ 50/60 Hz -16,0 A	NEMA 5-20	Standard	KB400UL-120V
					9020-0203
					9020-0305

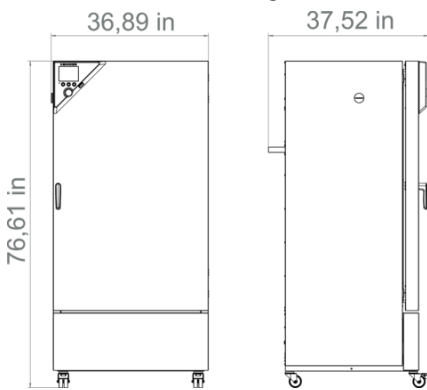
## TECHNICAL DATA

Data		
Designation	KB400-230V	KB400UL-120V
Article Number	9020-0203	9020-0305
Option model	Standard	Standard
Performance Data Temperature		
Temperature range	-10...100 °C	-10...100 °C
Temperature uniformity at 37°C	0.2 ± K	0.2 ± K
Temperature fluctuation at 37°C	0.1 ± K	0.1 ± K
Max. heat compensation at 40°C	500 W	500 W
Recovery time after door was opened for 30 s at 37°C	4 min	4 min
Electrical data		
Rated Voltage	200...240 V	100...120 V
Power frequency	50/60 Hz	50/60 Hz
Nominal power	1,4 kW	1,4 kW
Unit fuse	16,0 A	16,0 A
Phase (Nominal voltage)	1~	1~
Dimensions and weights		
Interior volume	400 L	400 L
Net weight of the unit (empty)	221 kg	221 kg
Load per rack	30 kg	30 kg
Permitted load	120 kg	120 kg
Wall clearance back	100 mm	100 mm
Wall clearance sidewise	100 mm	100 mm
Housing dimensions not incl. fittings and connections		
Width net	925 mm	925 mm
Height net	1,950 mm	1,950 mm
Depth net	805 mm	805 mm
Internal Dimensions		
Interior width	650 mm	650 mm
Interior height	1,268 mm	1,268 mm

Interior depth	485 mm	485 mm
Inner doors	1	1
Unit doors	1	1
<b>Environment-specific data</b>		
Sound-pressure level	53 dB(A)	53 dB(A)
Energy consumption at 37°C	330 Wh/h	330 Wh/h
<b>Fixtures</b>		
Number of shelves (std./max.)	2/15	2/15

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. Technical data refers to 100 % fan speed. 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	KB 400	*	Art.-No.
	left			
	30 mm	•	01	8012-0648
	50 mm	•	01	8012-0653
	right			
Access port with silicone plug	30 mm	•	01	8012-0647
	50 mm	•	01	8012-0652
	top			
	30 mm	•	01	8012-0649
	50 mm	•	01	8012-0650

Designation	Description	KB 400	*	Art.-No.
	100 mm	•	01	8012-0651
Alarm output, zero-voltage	for temperature ( $\pm 2$ °C), accessible via 6-pin DIN socket (max. 24 V - 2,5 A), with audible signal that can be switched off	•	-	8012-1083
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	•	-	8012-1120
	for temperature, measurement in center of chamber at specified temperature	•	-	8012-1139
Calibration certificate, temperature	temperature measurement incl. certificate, 9 measuring points at specified temperature	•	-	8012-1556
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	•	-	8012-1577
	temperature measurement incl. certificate and 27 measuring points at specified temperature	•	-	8012-1598
Class 3.3 independent temperature safety device	with visual alarm (DIN 12880)	•	-	8012-1081
Door lock	lockable door handle	•	-	8012-1774
Pt 100 temperature sensor	additional flexible Pt 100, interior, for displaying the temperature on the unit display	•	-	8012-1079
Shelf, reinforced	positioned at bottom level, max. load 45 kg, with additional attachment for operation of shaking device, stirring device or roller bottle system	•	-	8012-0639

## ACCESSORIES

Designation	Description	KB 400	*	Art.-No.
	Multi Management Software APT-COM™			
APT-COM™ 4	version 4, BASIC edition	•	-	9053-0039
	version 4, GLP edition	•	-	9053-0042
	version 4, PROFESSIONAL edition	•	-	9053-0040
	Basic set consisting of 2 pieces, attachment material, control unit for max. 4 light strips, 100-240 V, 50/60 Hz			
LED light bars	Basic set 300, length 30 cm	•	-	8012-1107
	Basic set 500, length 50 cm	•	-	8012-1108
	Basic set 900, length 90 cm	•	-	8012-1109
	Expansion set consisting of 2 pieces, attachment material: clips. For expanding the basic set of light bars			
	Expansion set 300, length 30 cm	•	-	8012-1716
	Expansion set 500, length 50 cm	•	-	8012-1717
	Expansion set 900, length 90 cm	•	-	8012-1718

Designation	Description	KB 400	*	Art.-No.
Qualification documents	<p>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</p>			
	Digital in PDF format	•	-	7057-0005
	Hard copy inside folder	•	-	7007-0005
	<p>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</p>			
	Digital in PDF format	•	-	7057-0001
	Hard copy inside folder	•	-	7007-0001
Rack	stainless steel	•	-	8012-2050
Rack, reinforced	stainless steel, with fasteners (1 set of 4)	•	-	8012-0638
Rack accessories	fasteners (1 set of 4) for additional security of racks	•	-	8012-2280
Shelf, perforated	Stainless steel	•	-	8012-2163
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	•	-	8012-2250

## SERVICES

Designation	Description	*	Art.-No.
<b>Calibration services</b>			
Temperature calibration	Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate Travel to be quoted separate.	–	DL30-0102
Temperature measurement, 9 measuring points	Temperature measurement with 9 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 3 shelves are required.	–	DL30-0109
Temperature measurement, 18 measuring points	Temperature measurement with 18 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 2 shelves are required.	–	DL30-0118
Temperature measurement, 27 measuring points	Temperature measurement with 27 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 3 shelves are required.	–	DL30-0127
<b>Installation services</b>			
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) Travel to be quoted as separate.	–	DL10-0310
		–	DL10-0100
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming. Travel to be quoted as separate Limited to 3 hours.	–	DL10-0500
<b>Validation services</b>			

Designation	Description	*	Art.-No.
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder. Travel to be quoted separate.	–	DL41-0200
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder. Travel to be quoted separate.	–	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	–	DL50-0010

## NOTES

01      Condensation may occur in the area around the access port. Access ports may be placed in custom locations for an additional charge.

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