

Model KB 400 | Cooling incubators with compressor technology

The powerful virtuoso in cooling incubators for microorganisms: the KB masters temperature ranges from -5 °C to 100 °C. The new KB series consumes up to 30% less energy compared to its predecessor. With its extensive programming options and homogenous incubation conditions even when fully loaded, this cooling incubator covers a wide range of applications.

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



Model 400

MAIN FEATURES

- Temperature range: -5 °C to 100 °C
- APT.line[™] preheating chamber technology
- Up to 30% lower energy consumption compared to the previous model
- · Cooling with compressor cooling 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 [L]	Voltage	Option model	Version	ArtNo.
Model KB 400				
400	200240 V 1~ ph 50/60 Hz	Standard	KB400-230V	9020-0203
	100120 V 1~ ph 50/60 Hz	Standard	KB400UL-120V	9020-0305



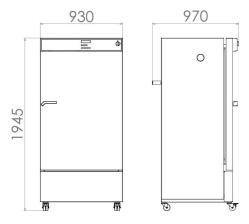
TECHNICAL DATA

Article Number 9020-0203 9020-0305 Performance Data Temperature Temperature range [°C] 5100 5100 Temperature range [°C] 5100 0.2 0.2 Temperature fucusation at 37 °C [k] { 0.1 0.1 Recovery time after 30 seconds door open at 37 °C [min] 4 0.1 Recovery time after 30 seconds door open at 37 °C [min] 200240 100120 Retending table 5500 5500 Power frequency [tz] 500.0 500.0 Power frequency [tz] 5500 500.0 Nominal power [kW] 1.4 4.4 Unit duse [A] 1.6 6. Phose Powindrul voltage) 1.4 4.0 Unit duse [A] 4.0 4.0 4.0 Neasures 1.1 4.0 4.0 4.0 Interior volume [L] 400 40 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 <th>Description</th> <th>KB400-230V¹</th> <th>KB400UL-120V¹</th>	Description	KB400-230V ¹	KB400UL-120V ¹
Temperature range [**] 5100 5100 Temperature variation at 3** C[± K] 0.2 0.2 Temperature fluctuation at 3** C[± K] 0.1 0.1 Recovery time after 30 seconds door open at 3** C[min] 4 4 Electrical data **** **** Rated Voltage [V] 500.240 100120 Power frequency [F2] 5060 100120 Nominal power [kW] 14 1.4 Unit fuse [A] 16 1.4 Phase (Nominal voltage) 16 1.4 Phase (Nominal voltage) 40 40 Phase (Nominal voltage) 40 40 Interior voltage [L] 400 40 Net suited [M1] 400 40 Net suited [M2] 221 221 Permitted load [kg] 100 10 Wall clearance sidewise [mm] 10 10 Vall clearance sidewise [mm] 10 1 Unit doors 1 1 1 Unit doors 1 1 <	Article Number	9020-0203	9020-0305
Temperature variation at 37 °C [± K] 0.2 0.2 Temperature fluctuation at 37 °C [± K] 0.1 0.1 Recovery time after 30 seconds door open at 37 °C [min] 4 4 Electrical data VERNOW THAN THAN THAN THAN THAN THAN THAN THAN	Performance Data Temperature		
Temperature fluctuation at 37 °C [± K]	Temperature range [°C]	-5100	-5100
Recovery time after 30 seconds door open at 37 °C [min] 4 4 Electrical data Comment of Electrical College (V) 200240 100120 Power frequency [Hz] 50/60 50/60 Nominal power [kM] 1.4 1.4 Unit fuse [A] 16 16 Phase (Nominal voltage) 1- 1- Measures 1 1- Interior volume [L] 400 400 Net weight of the unit (empty) [kg] 221 221 Load per rack [kg] 30 30 Wall clearance back [mm] 100 100 Wall clearance sidewise [mm] 100 100 Wall clearance sidewise [mm] 100 100 Doors 1 1 Inner doors 1 1 Unit doors 1 1 Intereal Dimensions 485 485 Height [mm] 485 485 Height [mm] 52 925 Width net [mm] 925 925 Height net [mm] </td <td>Temperature variation at 37 °C [± K]</td> <td>0.2</td> <td>0.2</td>	Temperature variation at 37 °C [± K]	0.2	0.2
Electrical data Electrical data Concept of Equency [Hz] 200240 100120 Power frequency [Hz] 50/60 50/60 Nominal power [kW] 1.4 1.4 Unit fuse [A] 16 16 Phase (Nominal voltage) 1- 1- Measures Interior volume [L] 400 400 Net weight of the unit (empty) [kg] 221 221 Load per rack [kg] 30 30 Wall clearance back [mm] 100 100 Wall clearance sidewise [mm] 100 100 Doors 1 1 Inner doors 1 1 Unit doors 1 1 Unit doors 1 1 Height [mm] 485 485 Height [mm] 270 270 Width [mm] 85 925 Height net [mm] 925 925 Height net [mm] 925 925 Height net [mm] 925 925 Height net [Temperature fluctuation at 37 °C [± K]	0.1	0.1
Rated Voltage [V] 200240 100120 Power frequency [Hz] 50/60 50/60 Nominal power [kW] 1.4 1.4 Unit fuse [A] 16 6 Phase (Nominal voltage) 1- 1- Measures Interior volume [L] 400 400 Net weight of the unit (empty) [kg] 221 221 Deemitted load [kg] 100 100 Uad per rack [kg] 30 30 Wall clearance back [mm] 100 100 Wall clearance sidewise [mm] 100 10 Unit doors 1 1 Unit doors 1 1 Intered Dimensions 1 1 Intered Dimensions 485 485 Height [mm] 485 485 Height [mm] 925 925 Width met [mm] 925 925 Height net [mm] 926 925 Height net [mm] 926 925 Heigh	Recovery time after 30 seconds door open at 37 °C [min]	4	4
Power frequency [Hz] 50/60 50/60 Nominal power [kW] 1.4 1.4 Unif use [A] 16 16 Phase (Nominal voltage) 1- 1- Phase (Nominal voltage) 1- Interior voltage [L] 400 400 Net weight of the unit (empty) [kg] 221 221 Net weight of the unit (empty) [kg] 20 120 Power prack [kg] 30 30 Wall clearance back [mg] 100 100 Wall clearance sidewise [mm] 100 10 Doors 1 1 1 Unit doors 1 1 1 Unit doors 1 1 1 Internal Dimensions 485 485 Height [mm] 485 485 Width [mm] 650 50 Width [mm] 925 925 Height [mm] 1950 925 Height [nm] 1950 925 Height [nm] 1950 <	Electrical data		
Nominal power [kW] 1.4 1.4 Unit fuse [A] 16 16 Phase (Nominal voltage) 1~ 1~ Measures ***********************************	Rated Voltage [V]	200240	100120
Unit fuse [A] 16 16 Phase (Nominal voltage) 1- 1- Measures Interior volume [L] 400 400 Net weight of the unit (empty) [kg] 221 221 221 permitted load [kg] 120	Power frequency [Hz]	50/60	50/60
Phase (Norninal voltage) 1~ 1- Measures 400 400 400 Net weight of the unit (empty) [kg] 221 221 permitted load [kg] 120 120 Load per rack [kg] 30 30 Wall clearance back [mm] 100 100 Wall clearance sidewise [mm] 100 100 Wall clearance sidewise [mm] 100 100 Poors V 1 1 Inner doors 1 1 1 Unit doors 1 1 1 Internal Dimensions 1 1 1 Depth [mm] 485 485 485 Height [mm] 1270 1270 1270 Width [mm] 650 50 50 Housing dimensions not incl. fittings and connections 925 925 Width net [mm] 1950 925 925 Height net [mm] 805 805 805 Energy consumption at 37 °C [Wh/h] 330 30	Nominal power [kW]	1.4	1.4
Measures Interior volume [L] 400 400 Net weight of the unit (empty) [kg] 221 221 permitted load [kg] 120 120 Load per rack [kg] 30 30 Wall clearance back [mm] 100 100 Wall clearance sidewise [mm] 100 100 Doors 1 1 Unit doors 1 1 Unit doors 1 1 Internal Dimensions 1 1 Depth [mm] 485 485 Height [mm] 1270 1270 Width [mm] 650 650 Housing dimensions not incl. fittings and connections 925 925 Width net [mm] 925 925 Leight net [mm] 805 805 Depth net [mm] 805 805 Environment-specific data 53 53 Fixtures	Unit fuse [A]	16	16
Interior volume [L] 400 400 Net weight of the unit (empty) [kg] 221 221 permitted load [kg] 120 120 Load per rack [kg] 30 30 Wall clearance back [mm] 100 100 Wall clearance sidewise [mm] 100 100 Doors ************************************	Phase (Nominal voltage)	1~	1~
Net weight of the unit (empty) [kg] 221 221 permitted load [kg] 120 120 Load per rack [kg] 30 30 Wall clearance back [mm] 100 100 Wall clearance sidewise [mm] 100 100 Doors ************************************	Measures		
permitted load [kg] 120 120 Load per rack [kg] 30 30 Wall clearance back [mm] 100 100 Wall clearance sidewise [mm] 100 100 Doors Inner doors 1 1 Unit doors 1 1 1 Internal Dimensions V 1 1 Depth [mm] 485 485 485 Height [mm] 1270 1270 1270 Width [mm] 650 650 650 Housing dimensions not incl. fittings and connections Width net [mm] 925 925 Height net [mm] 1950 1950 95 Depth net [mm] 805 805 Environment-specific data 805 805 Energy consumption at 37 °C [Wh/h] 330 330 Sound-pressure level [dB(A)] 53 53 Fixtures 53 53	Interior volume [L]	400	400
Name Name	Net weight of the unit (empty) [kg]	221	221
Wall clearance back [mm] 100 100 Wall clearance sidewise [mm] 100 100 Doors Inner doors 1 1 Unit doors 1 1 Internal Dimensions Use pth [mm] 485 485 Height [mm] 1270 1270 Width [mm] 650 650 Housing dimensions not incl. fittings and connections 925 925 Width net [mm] 925 925 Height net [mm] 805 805 Environment-specific data 805 805 Environment-specific data 53 330 Sound-pressure level [dB(A)] 53 53 Fixtures	permitted load [kg]	120	120
Wall clearance sidewise [mm] 100 100 Doors Inner doors 1 1 Unit doors 1 1 1 Internal Dimensions V V 1 V 1 V V V 1 V V V 1 V	Load per rack [kg]	30	30
Doors Inner doors 1 1 Unit doors 1 1 Internal Dimensions Uppth [mm] 485 485 Height [mm] 1270 1270 Width [mm] 650 650 Housing dimensions not incl. fittings and connections Width net [mm] 925 925 Height net [mm] 1950 1950 Depth net [mm] 805 805 Environment-specific data Energy consumption at 37 °C [Wh/h] 330 330 Sound-pressure level [dB(A)] 53 53 Fixtures	Wall clearance back [mm]	100	100
Inner doors 1 1 Unit doors 1 1 Internal Dimensions	Wall clearance sidewise [mm]	100	100
Unit doors 1 1 Internal Dimensions Depth [mm] 485 485 Height [mm] 1270 1270 Width [mm] 650 650 Housing dimensions not incl. fittings and connections Vidth net [mm] 925 925 Height net [mm] 1950 1950 Depth net [mm] 805 805 Environment-specific data Energy consumption at 37 °C [Wh/h] 330 330 Sound-pressure level [dB(A)] 53 53 Fixtures	Doors		
Internal Dimensions Depth [mm] 485 485 Height [mm] 1270 1270 Width [mm] 650 650 Housing dimensions not incl. fittings and connections *** Width net [mm] 925 925 Height net [mm] 1950 1950 Depth net [mm] 805 805 Environment-specific data *** Energy consumption at 37 °C [Wh/h] 330 330 Sound-pressure level [dB(A)] 53 53 Fixtures	Inner doors	1	1
Depth [mm] 485 485 Height [mm] 1270 1270 Width [mm] 650 650 Housing dimensions not incl. fittings and connections *** Width net [mm] 925 925 Height net [mm] 1950 1950 Depth net [mm] 805 805 Environment-specific data *** *** Energy consumption at 37 °C [Wh/h] 330 330 Sound-pressure level [dB(A)] 53 53 Fixtures	Unit doors	1	1
Height [mm] 1270 1270 Width [mm] 650 650 Housing dimensions not incl. fittings and connections Vidth net [mm] 925 Width net [mm] 1950 1950 Depth net [mm] 805 805 Environment-specific data 805 805 Energy consumption at 37 °C [Wh/h] 330 330 Sound-pressure level [dB(A)] 53 53 Fixtures	Internal Dimensions		
Width [mm] 650 650 Housing dimensions not incl. fittings and connections	Depth [mm]	485	485
Housing dimensions not incl. fittings and connections Width net [mm] 925 925 Height net [mm] 1950 1950 Depth net [mm] 805 805 Environment-specific data Energy consumption at 37 °C [Wh/h] 330 330 Sound-pressure level [dB(A)] 53 53 Fixtures	Height [mm]	1270	1270
Width net [mm] 925 925 Height net [mm] 1950 1950 Depth net [mm] 805 805 Environment-specific data Sound-pressure level [dB(A)] 330 330 Sound-pressure level [dB(A)] 53 53 Fixtures	Width [mm]	650	650
Height net [mm] 1950 1950 Depth net [mm] 805 805 Environment-specific data The support of the specific data	Housing dimensions not incl. fittings and connections		
Depth net [mm] 805 805 Environment-specific data	Width net [mm]	925	925
Environment-specific data Energy consumption at 37 °C [Wh/h] 330 330 Sound-pressure level [dB(A)] 53 53 Fixtures	Height net [mm]	1950	1950
Energy consumption at 37 °C [Wh/h] 330 330 Sound-pressure level [dB(A)] 53 53 Fixtures	Depth net [mm]	805	805
Sound-pressure level [dB(A)] 53 53 Fixtures	Environment-specific data		
Fixtures	Energy consumption at 37 °C [Wh/h]	330	330
	Sound-pressure level [dB(A)]	53	53
Number of shelves (std./max.) 2/15	Fixtures		
	Number of shelves (std./max.)	2/15	2/15

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 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 AND ACCESSORIES

Designation	Description	*	ArtNo.
	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
	100 mm	01	8012-0651
Alarm output, zero- /oltage	for temperature (±2 °C), accessible via 6-pin DIN socket (max. 24 V - 2.5 A), with audible signal that can be switched off	-	8012-1083
Analog output 4-20 mA	for temperature values (output not adjustable)	02	8012-1073
APT-COM™ 4 BASIC-	for simple logging and documentation requirements with up to 5 networked units.		
Edition	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.		
Luition	version 4, GLP edition	19	9053-0042
APT-COM™ 4	convenient unit and user management built on the BASIC edition. Suitable for networking up to 100 units.		
PROFESSIONAL- Edition	version 4, PROFESSIONAL edition	19	9053-0040
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 measurement incl. certificate and 27 measuring points at specified temperature	-	8012-1598
emperature	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	-	8012-1577
	temperature measurement incl. certificate, 9 measuring points at specified temperature	-	8012-1556
Class 3.3 independent emperature safety device	with visual alarm (DIN 12880)	-	8012-1081
Data Logger Kit	T 220: For continuous temperature logging from -90 °C to 220 °C. The kit includes 1 data logger, Pt 100 sensor with 2 m extension cable and 1 magnetic fixture for mounting to the BINDER unit	19	8012-0715
Data Logger Software	LOG ANALYZE software kit, configuration and evaluation software for all BINDER Data Logger Kits (incl. USB data cable)	19	8012-0821
Door lock	lockable door handle	-	8012-1774
Interior lighting	with two 15 W light bulbs		
	120 V option model	02	8012-1070
	230/240 V option model	02	8012-1071

^{*} Notes > See last page



Designation	Description	*	ArtNo.
Interior socket	Waterproof, switched flush-mounting box (CA3GD) for nominal voltage in unit interior, with cover and corresponding plug (nominal voltage; max. 500 W; max. 90 °C; protection class IP67)	07	8012-1075
LED light bars	Basic set consisting of 2 pieces, attachment material, control unit for max. 4 light strips, 100-240 V, 50/60 Hz		
	Basic set 300, length 30 cm	-	8012-1107
	Basic set 500, length 50 cm	-	8012-110
	Basic set 900, length 90 cm	-	8012-110
	Expansion set consisting of 2 pieces, attachment material: clips. For expanding the basic set of light bars		
	Expansion set 300, length 30 cm	-	8012-171
	Expansion set 500, length 50 cm	-	8012-171
	Expansion set 900, length 90 cm	-	8012-171
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-001
Pt 100 temperature sensor	additional flexible Pt 100, interior, for displaying the temperature on the unit display	-	8012-107
Rack	stainless steel	-	6004-010
Rack accessories	fasteners (1 set of 4) for additional security of racks	-	8012-062
Rack, reinforced	stainless steel, with fasteners (1 set of 4)	-	8012-063
Shelf, perforated	Stainless steel	-	6004-004
Shelf, reinforced	positioned at bottom level, max. load 67 kg, with additional attachment for operation of shaking device, stirring device or roller bottle system	-	8012-063

^{*} Notes > See last page

SERVICES

Designation	Description	*	ArtNo.
Installation services			
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
Preventive maintenance			
Preventive maintenance	Executive of equipment inspection according to maintenance plan	14, 18	DL20-0200
Calibration services			
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
Validation services			
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	8012-0873
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	8012-0960
Warranty service			
Extension of the warranty from 2 to 3 years	beginning with the date of delivery, wearing parts are not included	-	DL01-8041
Extension of the warranty from 2 to 5 years	beginning with the date of delivery, wearing parts are not included	-	DL01-8042
* Notes > See last nage			

^{*} Notes > See last page



NOTES

- 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.
- Heat resistant only to max. 200 °C. 03
- Only available on units rated for 230 V.
- Heating-up time may increase as a result of the lower heat conductivity.
- The additional heat input may affect the temperature behavior.
- Not in conjunction with the optional access port, door with window and interior lighting.
- Not available on 23-liter units.
- Not available on 23- or 53-liter units
- 10 11 12 Only available on units rated for 230 V or 400 V.
- Installation and connections take place at unit location; transport within the company only upon consultation.
- We recommend a BINDER service contract to cover unit inspections, calibrations and validations.
- OQ according to Yellow Paper = completed factory validation documentation of all OQ checklists.
- Sensor calibration is performed in an accredited calibration laboratory.
- 17
- Calibration is performed according to the BINDER factory standard.

 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).
- For additional accessories, refer to the Process documentation chapter.
- 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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