Model KB ECO 400 | Cooling incubators with environmentally friendly thermoelectric cooling

Thanks to thermoelectric cooling technology with patented heat dissipation, the new KB ECO cooling incubator is one of the most energy-efficient cooling incubator on the market. The thermoelectric cooling technology means the KB ECO series is also very quiet during operation.

BENEFITS

- Safe: Unique condensate and dry-out protection for all operating conditions
- Reliable: Fail-safe operation due to intelligent thermoelectric tempering
- Smart: Temperatures programmable for intermitted incubation and refrigeration
- Economical: Minimum energy consumption thanks to optimized thermoelectric cooling

Model 400

Model 400

IMPORTANT FEATURES

- Temperature range: 0°C through +70°C (max. 28°C below the ambient temperature)
- APT.line™ preheating chamber technology
- Electric temperature control thanks to thermoelectric cooling module with innovative heat dissipation
- Inner door made of tempered safety glass
- Inner chamber made completely of stainless steel
- 2 rack, stainless steel
- Adjustable condensate protection
- Access port with silicone plug Ø 30 mm
- LCD to display temperature along with additional information and alarms
- Internal data logger, measured values can be read out in open format via USB
- Unit self-test for comprehensive status analysis
- Computer interface: Ethernet

ORDERING INFORMATION

Interior volume [L]	Power supply - unit fuse	Plug*	Version	Model version	Art.-No.
Model KB ECO 400					
400	100...120 V 1~ 50/60 Hz -16,0 A	NEMA 5-20	Standard	KBECO400-120V	9020-0466
	200...230 V 1~ 50/60 Hz -16,0 A	CEE 7/7	Standard	KBECO400-230V	9020-0465

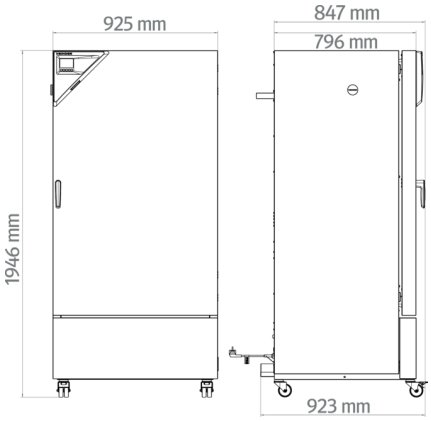
TECHNICAL DATA

Data		
Article Number	9020-0465	9020-0466
Designation	KBECO400-230V	KBECO400-120V
Option model	Standard	Standard
Performance Data Temperature		
Temperature range	(max. 28 °C under ambient temperature) 0...70 °C	(max. 28 °C under ambient temperature) 0...70 °C
Temperature uniformity at 37°C	0.1 ± K	0.1 ± K
Temperature fluctuation at 37°C	0.1 ± K	0.1 ± K
Max. heat compensation at 40°C	350 W	350 W
Recovery time after door was opened for 30 s at 37°C	6 min	6 min
Electrical data		
Rated Voltage	200...230 V	100...120 V
Power frequency	50/60 Hz	50/60 Hz
Nominal power	1,2 kW	1,2 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)	196 kg	196 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	1,946 mm	1,946 mm
Depth net	796 mm	796 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
Environment-specific data		
Sound-pressure level	43 dB(A)	43 dB(A)
Energy consumption at 25°C	45 Wh/h	45 Wh/h
Energy consumption at 37°C	70 Wh/h	70 Wh/h
Fixtures		
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 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.
For model KB ECO 240 and KB ECO 400 temperature differences are possible up to 28 °C below ambient temperature; for models KB ECO 720 and KB ECO 1020, temperature differences are possible up to 26 °C below ambient temperature.
The lowest operating temperature for all units is 0 °C irrespective of the ambient temperature.

DIMENSIONS Incl. fittings and connections [mm]



OPTIONS

Designation	Description	KB ECO 400	*	Art.-No.
Access port with silicone plug	left			
	30 mm	•	01	8012-2113
	50 mm	•	01	8012-2120
	100 mm	•	01	8012-2118
	right			
	30 mm	•	01	8012-2112
	50 mm	•	01	8012-2119
	100 mm	•	01	8012-2117

Designation	Description	KB ECO 400	*	Art.-No.
	top			
	30 mm	•	01	8012-2114
	50 mm	•	01	8012-2115
	100 mm	•	01	8012-2116
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	•	-	8012-2107
Calibration certificate, temperature	for temperature, measurement in center of chamber at specified temperature	•	-	8012-2106
	temperature measurement incl. certificate, 9 measuring points at specified temperature	•	-	8012-2108
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	•	-	8012-2109
	temperature measurement incl. certificate and 27 measuring points at specified temperature	•	-	8012-2110
Door lock	lockable door handle	•	-	8012-2121

ACCESSORIES

Designation	Description	KB ECO 400	*	Art.-No.
APT-COM™ 4 BASIC-Edition	for simple logging and documentation requirements with up to 5 networked units.			
	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-Edition	convenient unit and user management built on the BASIC edition. Suitable for networking up to 100 units.			
	version 4, PROFESSIONAL edition	•	-	9053-0040
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	•	-	8012-1108
	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
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	•	-	8012-2250

Designation	Description	KB ECO 400	*	Art.-No.
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, CO_2, O_2 – or pressure, depending on unit			
	Digital in PDF format	•	-	7057-0005
	Hard copy inside folder	•	-	7007-0005
	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_2, O_2, pressure, depending on unit			
	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
Shelf, perforated	Stainless steel	•	-	8012-2163

SERVICES

Designation	Description	*	Art.-No.
Calibration services			
Calibration certificate, temperature	Calibration of one (1) test temperature specified by the user in center of chamber, including certificate	05	DL30-0135
	Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate	05	DL30-0102
Temperature measurement, 9 measuring points	Temperature measurement with 9 measuring points with a set value specified by the user, including certificate	05	DL30-0109
Temperature measurement, 18 measuring points	Temperature measurement with 18 measuring points with a set value specified by the user, including certificate	05	DL30-0118
Temperature measurement, 27 measuring points	Temperature measurement with 27 measuring points with a set value specified by the user, including certificate	05	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)	05	DL10-0170
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming	05	DL10-0550
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	05	DL20-0720
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	05	DL20-0945

Designation	Description	*	Art.-No.
	test temperature specified by the user in the center of the usable space, including certificate		
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	DL20-0845
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	05	DL20-0604
Validation services			
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
Warranty service			
1-year warranty extension	The warranty is extended by 1 year from the delivery date, wear parts are excluded	05	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.

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).

BINDER GmbH
Tuttlingen, Germany
TEL +49 7462 2005 0
info@binder-world.com
www.binder-world.com

BINDER Inc.
Bohemia, NY, USA
TEL +1 631 224 4340
usa@binder-world.com
www.binder-world.us

BINDER Environmental Testing Equipment (Shanghai) Co., Ltd.
Shanghai, P.R. China
TEL +86 21 685 808 25
china@binder-world.com
www.binder-world.com