Model KB ECO 400 | Refrigerated 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



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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 stainless steel racks
- 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		Power supply - unit fuse	Plug*	Version	Model version	Art.-No.
[cu.ft.]	[L]					
Model KB ECO 400						
14	400	200...230 V 1~ 50/60 Hz -16,0 A	CEE 7/7	Standard	KBECO400-230V	9020-0465
		100...120 V 1~ 50/60 Hz -16,0 A	NEMA 5-20	Standard	KBECO400UL-120V	9020-0466

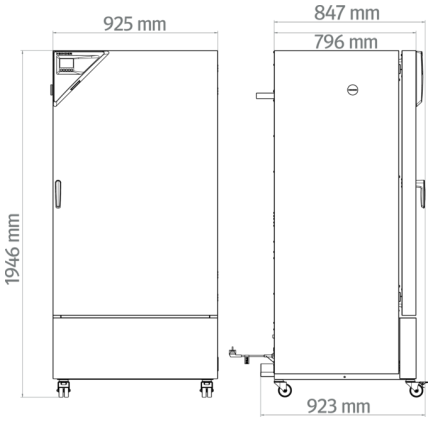
TECHNICAL DATA

Data		
Article Number	9020-0465	9020-0466
Designation	KBECO400-230V	KBECO400UL-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	14 cu.ft.	14 cu.ft.
Net weight of the unit (empty)	432 lbs	432 lbs
Load per rack	66 lbs	66 lbs
Permitted load	265 lbs	265 lbs
Wall clearance back	3,94 in	3,94 in
Wall clearance sidewise	3,94 in	3,94 in
Housing dimensions not incl. fittings and connections		
Width net	36.42 in	36.42 in
Height net	76.61 in	76.61 in
Depth net	31.34 in	31.34 in
Internal Dimensions		
Interior width	25.59 in	25.59 in
Interior height	49.92 in	49.92 in

Interior depth	19.09 in	19.09 in
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	IQ/OQ documents digital in PDF format – supporting documents for validation consisting of: IQ/OQ checklists, comprehensive unit documentation covering: temperature. Excluded: Document execution is separate			
	temperature. Excluded: Document execution is separate	•	-	7057-0010
Qualification documents IQ/OQ/PQ	IQ/OQ/PQ documents digital in PDF format – supporting documents for validation customizied to customer requirements, PQ section added to the qualification folder IQ/OQ; supporting documents for validation consisting of: IQ/OQ checklists, comprehensive unit documentation covering: temperature values. Excluded: Document execution is separate			
	temperature values. Excluded: Document execution is separate	•	-	7057-0016
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			
Temperature calibration	Calibration of one (1) test temperature specified by the user in center of chamber, including certificate Travel to be quoted separate.	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 Travel to be quoted separate.	05	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.	05	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.	05	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.	05	DL30-0127
Installation services			
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.	05	DL10-0170
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.	05	DL10-0550
Maintenance services			
BRONZE 3-year maintenance contract	Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate. 10% Discount on Spare Parts and Labor for any additional Services needed Wear + tear parts to be purchased or billed to customer. Travel to be quoted as separate.	05	DL20-0720

Designation	Description	*	Art.-No.
GOLD 3-year maintenance contract	Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate of Temperature. 25% Discount on Spare Parts and Labor for any additional Services needed. One additional courtesy visit per year can be used for service visit or operator. Wear + tear parts to be purchased or billed to customer. Travel to be quoted separate.	05	DL20-0945
Preventive maintenance	One-off maintenance service in accordance with maintenance schedule. Visual inspection of mechanical and electrical components, testing of all key functions. Checking a test temperature specified by the user in center of usable space without certificate. Wear + tear parts need to be purchased or billed to customer. Travel to be quoted as separate.	05	DL20-0604
SILVER 3-year maintenance contract	Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate 15% Discount on Spare Parts and Labor for any additional Services needed One additional courtesy visit per year can be used for service visit or operator training. Wear + tear parts to be purchased or billed to customer. Travel to be quoted separate.	05	DL20-0845
Validation services			
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder. Travel to be quoted separate.	05	DL41-0200
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder. Travel to be quoted separate.	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).

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