

Model KB 400 | Cooling incubators with compressor technology

BENEFITS

- Safe and reproducible incubation conditions even at high environmental conditions
- Disinfection routine at 100 °C



MAIN FEATURES

- Temperature range: -5 °C to 100 °C
- APT.line™ preheating chamber technology
- Cooling with compressor cooling unit
- Door heating system
- Adjustable fan speed
- Controller with time-segment and real-time programming
- Elapsed time indicator
- Inner door made of tempered safety glass
- 2 stainless steel racks
- 4 castors, two with brakes
- Access port with silicone plug, 30 mm, left
- Class 3.1 independent temperature safety device (DIN 12880) with visual and audible temperature alarm
- Computer interface: RS 422

ORDERING INFORMATION

Interior volume [L]	Voltage	Option model	Version	Art.-No.
Model KB 400				
400	200...240 V 1~ 50/60 Hz	Standard	KB400-230V	9020-0178
	100...120 V 1~ 50/60 Hz	Standard	KB400UL-120V	9020-0179

TECHNICAL DATA

Description	KB400-230V	KB400UL-120V
Article Number	9020-0178	9020-0179
Performance Data Temperature		
Temperature range [°C]	-5...100	-5...100
Temperature variation at 37 °C [± K]	0.3	0.3
Temperature fluctuation [± K]	0.1	0.1
Recovery time after 30 seconds door open 90° aperture angle at 37 °C [min]	3	3
Electrical data		
Rated Voltage [V]	200...240	100...120
Power frequency [Hz]	50/60	50/60
Nominal power [kW]	1.4	1.4

Description	KB400-230V	KB400UL-120V
Article Number	9020-0178	9020-0179
Unit fuse [A]	16	16
Phase (Nominal voltage)	1~	1~
Measures - Outer dimensions		
Width net [mm]	925	925
Height net [mm]	1950	1950
Depth net [mm]	805	805
Wall clearance back [mm]	100	100
Wall clearance sidewise [mm]	100	100
Measures - Doors		
Inner doors	1	1
Unit doors	1	1
Measures - Internal Dimensions		
Width [mm]	650	650
Height [mm]	1270	1270
Depth [mm]	485	485
Measures		
Interior volume [L]	400	400
Net weight of the unit (empty) [kg]	220	220
permitted load [kg]	120	120
Load per rack [kg]	30	30
Environment-specific data		
Energy consumption at 37 °C	420 Wh/h	420 Wh/h
Sound-pressure level [dB(A)]	0	0
Fixtures		
Number of shelves (standard/maximum)	2/15	2/15

OPTIONS AND ACCESSORIES

Designation	Description	*	Art.-No.
Access port with silicone plug	30 mm, left	01	8012-0648
	30 mm, right	01	8012-0647
	30 mm, top	01	8012-0649
	50 mm, left	01	8012-0653
	50 mm, right	01	8012-0652
	50 mm, top	01	8012-0650
	100 mm, top	01	8012-0651
Analog output, 4 – 20 mA	for temperature values (output not adjustable)	02	8012-0626
Calibration certificate, expanded	each measurement at additional measuring point or testing temperature	–	8012-0022
Calibration certificate, temperature	for temperature, measurement in center of chamber at specified temperature	–	8012-0030
	temperature measurement incl. certificate and 27 measuring points at specified temperature	–	8012-0921
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	–	8012-0918
	temperature measurement incl. certificate, 9 measuring points at specified temperature	–	8012-0915
Class 3.3 independent temperature safety device	with visual alarm (DIN 12880)		
	120 V option model	–	8012-0612
	230 V option model	–	8012-0610
Data Logger Kit	T 220: temperature logging from -90 °C to 220 °C	19	8012-0715

* Notes > See last page

Designation	Description	*	Art.-No.
Data Logger Kit, 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	-	8012-0584
Ethernet interface	in place of RS 422, for communication software	-	8012-0613
Interface converter	RS 422 cable set and RS 232 / RS 422 interface converter for connection to 10-way plug distributor or for connection to a unit		
	120 V, 60 Hz option model	-	8012-0557
	230 V, 50/60 Hz option model	-	8012-0556
Interface converter, USB / RS422	RS 422 cable set and RS 422 / USB interface converter for connection to 10-way plug distributor or for connection to a unit (USB-powered converter)	-	8012-0665
Interior lighting	230 V, 30 W option model	02	8012-0117
Interior socket	coverable, with associated LEMO connector (nominal voltage, max. 500 W, max. 90 °C, protection class IP67)	07	8012-0640
Magnetic Pouch (A4)	insert pouch with magnetic strip	-	1007-0065
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-0016
Pt 100 temperature sensor	additional Pt 100, with flexible cable installed with external connection, incl. 6-pin DIN socket	-	8012-0637
Rack	stainless steel	-	6004-0101
Rack, accessories	set of 4 fasteners for additional security	-	8012-0620
Rack, reinforced	stainless steel, with 1 set of 4 fasteners, max. load 70 kg	-	8012-0638
RS 422 interface	modular plug distributor for 10 RS 422 interfaces	-	8012-0295
RS 422 interface, cable (15 m)	RS 422 connection cable (15 m) between plug distributor and RS 422 interface	-	5023-0036
RS 422 interface, cable (50 m)	RS 422 extension cable (50 m) between interface converter and unit or RS 232 / RS 422 plug distributor	-	5023-0117
Shelf, perforated	stainless steel	-	6004-0040
Shelf, reinforced	positioned at bottom level, max. load 67 kg, with additional attachment for operation of shaking device, stirring device or roller bottle system	-	8012-0639
Software	APT-COM™ communications software		
	version 2 to 3, GLP edition	19	9053-0016
	version 3, BASIC edition	19	9053-0014
	version 3, GLP edition	19	9053-0015
	version 3, STANDARD edition	19	9053-0013
	APT-COM™ communications software, price: for free		
	version 3, GLP DEMO Edition	19	9053-0008
Zero voltage relay contacts	for controlling 3 relay contacts via program regulators, accessible via 6-pin DIN socket (max. 24 V - 2.5 A) 120 V, 230 V option model	-	8012-0627

* Notes › See last page

SERVICES

Designation	Description	*	Art.-No.
Installation services			
Installation	and set up of unit at operating location, connect to existing connections	13, 18	DL100100
Instruction	unit function instructions for operation and programming of the controller	18	DL100500
Preventive maintenance			
Preventive maintenance	Executive of equipment inspection according to maintenance plan	14, 18	DL200300
Calibration services			
Calibration temperature	including certificate, one measuring point in center of chamber at specified temperature	14, 16, 17, 18	DL300101
Temperature measurement 18 measuring points	including certificate, 18 measuring points at specified temperature	14, 16, 17, 18	DL300118
Temperature measurement 27 measuring points	including certificate, 27 measuring points at specified temperature	14, 16, 17, 18	DL300127

* Notes › See last page

Designation	Description	*	Art.-No.
Temperature measurement 9 measuring points	including certificate, 9 measuring points at specified temperature	14, 16, 17, 18	DL300109
Validation services			
Execution of IQ/OQ	in accordance with qualification folder	15, 18, 20	DL410200
Execution of IQ/OQ/PQ	in accordance with customer's requirement, price: on request	15, 18	DL440500
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	-	DL018041
Extension of the warranty from 2 to 5 years	beginning with the date of delivery, wearing parts are not included	-	DL018042

* Notes › See last page

NOTES

- 01 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.
- 03 Heat resistant only to max. 200 °C.
- 04 Only available on units rated for 230 V.
- 06 Heating-up time may increase as a result of the lower heat conductivity.
- 07 The additional heat input may affect the temperature behavior.
- 09 Not in conjunction with the optional access port, door with window and interior lighting.
- 10 Not available on 23-liter units.
- 11 Not available on 23- or 53-liter units.
- 12 Only available on units rated for 230 V or 400 V.
- 13 Installation and connections take place at unit location; transport within the company only upon consultation.
- 14 We recommend a BINDER service contract (see the chapter on BINDER Service) to cover unit inspections, calibrations and validations.
- 15 OQ according to Yellow Paper = completed factory validation documentation of all OQ checklists.
- 16 Sensor calibration is performed in an accredited calibration laboratory.
- 17 Calibration is performed according to the BINDER factory standard.
- 18 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).
- 19 For additional accessories, refer to the Process documentation chapter.
- 20 When ordering IQ/OQ qualification folders and associated IQ/OQ execution on one order, we offer a 15 % discount for both items.
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.
- 21 ATEX conformity:
Pumping chamber (pumped gases): II 2G IIC T3 X
Environment with inert purge gas: II 2G IIB T4 X
Environment without inert purge gas: II 3G IIB T4 X
Motor: II 2G Ex d IIB T4 Gb

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