

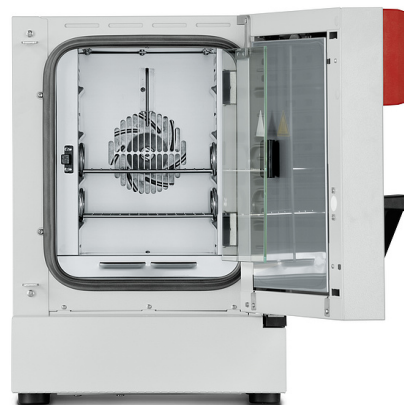
# Model KB 23 | Cooling incubators with compressor technology

## BENEFITS

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



Model 23



Model 23

## MAIN FEATURES

- Temperature range: 0 °C to 100 °C
- APT.line™ preheating chamber technology
- Cooling with compressor cooling unit
- 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
- Stackable
- 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 23				
20	230 V 1~ 50/60 Hz	Standard	KB023-230V	9020-0112
	120 V 1~ 60 Hz	Standard	KB023UL-120V	9020-0113

## TECHNICAL DATA

Description	KB023-230V	KB023UL-120V
<b>Article Number</b>	<b>9020-0112</b>	<b>9020-0113</b>
<b>Performance Data Temperature</b>		
Temperature range [°C]	0...100	0...100
Temperature uniformity at 40 °C [± K]	0.3	0.3
Temperature fluctuation at 40 °C [± K]	0.1	0.1
Heating-up time to 40 °C [min]	11	11
Recovery time after 30 seconds door open 90° aperture angle at 40 °C [min]	2	2
<b>Electrical data</b>		
Rated Voltage [V]	230	120
Power frequency [Hz]	50/60	60
Nominal power [kW]	0.34	0.34

## Data Sheet Model KB 23

Description	KB023-230V	KB023UL-120V
<b>Article Number</b>	<b>9020-0112</b>	<b>9020-0113</b>
Phase (Nominal voltage)	1~	1~
<b>Measures - Outer dimensions</b>		
Width net [mm]	435	435
Height net [mm]	620	620
Depth net [mm]	520	520
Wall clearance back [mm]	100	100
Wall clearance sidewise [mm]	100	100
<b>Measures - Doors</b>		
Inner doors	1	1
Unit doors	1	1
<b>Measures - Internal Dimensions</b>		
Width [mm]	222	222
Height [mm]	330	330
Depth [mm]	277	277
<b>Measures</b>		
Interior volume [L]	20	20
Net weight of the unit (empty) [kg]	44	44
Load per rack [kg]	10	10
<b>Environment-specific data</b>		
Energy consumption at 40 °C	60 Wh/h	60 Wh/h
Sound-pressure level [dB(A)]	0	0

## OPTIONS AND ACCESSORIES

Designation	Description	*	Art.-No.
<b>Access port with silicone plug</b>	10 mm, back	01	8012-0395
	10 mm, left	01	8012-0393
	10 mm, right	01	8012-0392
	10 mm, top	01	8012-0391
	30 mm, back	01	8012-0397
	30 mm, left	01	8012-0047
	30 mm, right	01	8012-0046
	30 mm, top	01	8012-0045
	50 mm, back	01	8012-0399
	50 mm, top	01	8012-0049
	100 mm, top	01, 10	8012-0053
<b>Analog output, 4 – 20 mA</b>	for temperature values (output not adjustable)	02	8012-0434
<b>Calibration certificate, expanded</b>	each measurement at additional measuring point or testing temperature	–	8012-0022
<b>Calibration certificate, temperature</b>	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
<b>Data Logger Kit</b>	T 220: temperature logging from -90 °C to 220 °C	19	8012-0715
<b>Data Logger Kit, software</b>	LOG ANALYZE software kit, configuration and evaluation software for all BINDER Data Logger Kits (incl. USB data cable)	19	8012-0821
<b>Door lock</b>	lockable door handle	–	8012-0318

\* Notes > See last page

## Data Sheet Model KB 23

Designation	Description	*	Art.-No.
<b>Interface converter, RS232/RS422 - 115V</b>	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
<b>Interface converter, RS232/RS422 - 230V</b>	RS 422 cable set and RS 232 / RS 422 interface converter for connection to 10-way plug distributor or for connection to a unit 230 V, 50/60 Hz option model	-	8012-0556
<b>Interface converter, RS422 - 115V</b>	RS 422 cable set and RS 422 / Ethernet interface converter for connection to 10-way plug distributor or for connection to a unit 120 V, 60 Hz option model	-	8012-0405
<b>Interface converter, RS422 - 230V</b>	RS 422 cable set and RS 422 / Ethernet interface converter for connection to 10-way plug distributor or for connection to a unit 230 V, 50/60 Hz option model	-	8012-0380
<b>Interface converter, USB / RS422</b>	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
<b>Interior socket</b>	coverable, with associated LEMO connector (nominal voltage, max. 500 W, max. 90 °C, protection class IP67)	07	8012-0077
<b>Magnetic Pouch (A4)</b>	insert pouch with magnetic strip	-	1007-0065
<b>pH-neutral detergent</b>	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-0016
<b>Pt 100 temperature sensor</b>	additional Pt 100, with flexible cable installed with external connection, incl. LEMO connector (3-pin)	-	8012-0115
<b>Rack</b>	stainless steel	-	6004-0051
<b>Rack, accessories</b>	set of 4 fasteners for additional security	-	8012-0531
<b>RS 422 interface</b>	modular plug distributor for 10 RS 422 interfaces	-	8012-0295
<b>RS 422 interface, cable (15 m)</b>	RS 422 connection cable (15 m) between plug distributor and RS 422 interface	-	5023-0036
<b>RS 422 interface, cable (50 m)</b>	RS 422 extension cable (50 m) between interface converter and unit or RS 232 / RS 422 plug distributor	-	5023-0117
<b>Rubber pads</b>	set of 4 anti-slip feet, for safe stacking of unit	10	8012-0001
<b>Shelf, perforated</b>	stainless steel	-	6004-0052
<b>Software</b>	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
<b>Zero voltage relay contacts</b>	for controlling 3 relay contacts via program regulators, accessible via 6-pin DIN socket (max. 24 V - 2.5 A) 230 V option model	-	8012-0473

\* Notes › See last page

## SERVICES

Designation	Description	*	Art.-No.
<b>Installation services</b>			
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
<b>Preventive maintenance</b>			
Preventive maintenance	Executive of equipment inspection according to maintenance plan	14, 18	DL200300
<b>Calibration services</b>			
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

\* Notes › See last page

Designation	Description	*	Art.-No.
Temperature measurement 27 measuring points	including certificate, 27 measuring points at specified temperature	14, 16, 17, 18	DL300127
Temperature measurement 9 measuring points	including certificate, 9 measuring points at specified temperature	14, 16, 17, 18	DL300109
<b>Validation services</b>			
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

\* 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.
- 05 Attention: The pump is delivered separately. The electric connection for the pump (230 V/1~/50 Hz) must be carried out by an authorized electrician.
- 06 Heating-up time may increase as a result of the lower heat conductivity.
- 07 The additional heat input may affect the temperature behavior.
- 08 The pump (packaged separately) is ready for connection.
- 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 T<sub>3</sub> X  
Environment with inert purge gas: II 2G IIB T<sub>4</sub> X  
Environment without inert purge gas: II 3G IIB T<sub>4</sub> X  
Motor: II 2G Ex d IIB T<sub>4</sub> Gb



Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.



**UK Office**

**Keison Products,**

**P.O. Box 2124, Chelmsford, Essex, CM1 3UP, England.**

**Tel: +44 (0)330 088 0560**

**Fax: +44 (0)1245 808399**

**Email: [sales@keison.co.uk](mailto:sales@keison.co.uk)**

Please note - Product designs and specifications are subject to change without notice. The user is responsible for determining the suitability of this product.