

# Model KB 720 | 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 720

# MAIN FEATURES

- Temperature range: -5 °C to 100 °C
- APT.line<sup>™</sup> 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



Model 720

- · 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 720				
698	200240 V 1~ ph 50/60	Standard	KB720-230V	9020-0204
090	Hz	Standard	KB720UL-240V	9020-0306



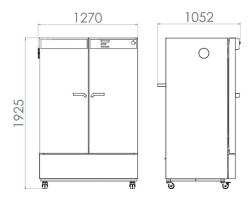
#### **TECHNICAL DATA**

Description         KB720-230V¹         KB720U-240V¹           Article Number         9020-0204         9020-0306           Performance Data Temperature         5100         5100           Temperature variation at 37 °C [± K]         0.2         0.2           Temperature Birchausion at 37 °C [± K]         0.1         0.2           Recovery time after 30 seconds door open at 37 °C [mi]         3         2           Electrical data         W         2.0         200240           Power frequency [Hz]         50.060         5006         5006           Nominal power [kW]         2.3         2.3           Unit fuse [A]         16         16         16           Phase (Nominal voltage)         16         6         6           Not weight of the unit (empty) [kg]         304         304         304           Net weight of the unit (empty) [kg]         304         304         304           Permitted load [kg]         150         150         100           Wall clearance sidewise [mm]         100         100         100           Wall clearance sidewise [mm]         2         2         2           Unit doors         2         2         2           Unit doors			
Performance Data Temperature         S100         5100           Temperature range [**C]         5100         5100           Temperature variation at 37 **C [**K]         0.2         0.2           Recovery time after 30 seconds door open at 37 **C [min]         3         3           Electrical data         ***Temperature variation at 37 **C [min]         30         0.0240           Power frequency [**P]         50000         50000         50000           Nominal power [kW]         2.3         2.3         2.3           Power frequency [**P.]         698         68         68           Phase (Nominal voltage)         1-	Description	KB720-230V <sup>1</sup>	KB720UL-240V <sup>1</sup>
Temperature variation at 37 °C [x K]         5100         5100           Temperature variation at 37 °C [x K]         0.2         0.2           Temperature fluctuation at 37 °C [x K]         0.1         0.3           Recovery time after 30 seconds door open at 37 °C [min)         3         3           Electrical data         Variation of 10 °C (x K)         5000         200240           Power frequency [kt]         5000         5000         200240           Nominal power [kW]         2.3         2.3         3           Unit fuse [A]         16         16         6           Phase (kominal voltage)         1-         16         6           Phase (kominal voltage)         98         68         8           Net weight of the unit (empty) [kg]         304         304         9           Net weight of the unit (empty) [kg]         50         150         150           Wall clearance sidewise [mm]         100         100         100           Wall clearance sidewise [mm]         20         2         2           Unit doors         2         2         2           Unit doors         57         75         150           Unit doors         57         150         150 </td <td>Article Number</td> <td>9020-0204</td> <td>9020-0306</td>	Article Number	9020-0204	9020-0306
Temperature variation at 37 °C [k K]         0.2         0.2           Temperature fluctuation at 37 °C [k K]         0.1         0.1           Recovery time after 30 seconds door open at 37 °C [min]         3         3           Recovery time after 30 seconds door open at 37 °C [min]         200240         200240           Reted Voltage [V]         200240         200240           Power frequency [Hz]         50/60         50/60           Nominal power [kW]         2.3         2.3           Unit fuse [A]         16         6           Phase (Nominal voltage)         1-         6           Phase (Nominal voltage)         1-         1-           Weasures         1-         1-           Interior volume [L]         698         698           Net weight of the unit (empty) [kg]         304         304           Permitted load [kg]         150         150           Used agene back [mm]         100         100           Wall clearance back [mm]         100         100           Wall clearance sidewise [mm]         2         2           Intered doors         2         2         2           Unit doors         576         576         576           He	Performance Data Temperature		
Temperature fluctuation at 37 °C [c K]         0.1         0.1           Recovery time after 30 seconds door open at 37 °C [min]         3         3           Electrical data         Very Carlot         200240         200240           Power frequency [Hz]         50/80         50/80         50/80           Nominal power [kW]         2.3         2.3         2.3           Unit Use [A]         16         16         16           Phase (Nominal votage)         16         16         16           Phase (Nominal votage)         16         6         16           Phase (Nominal votage)         16         16         16         16           Phase (Nominal votage)         16	Temperature range [°C]	-5100	-5100
Recovery time after 30 seconds door open at 37 °C [min]         3         3           Electrical data         Cool	Temperature variation at 37 °C [± K]	0.2	0.2
Electrical data         Electrical data         Electrical data         Electrical data         Electrical data         200240         200240           Power frequency [Hz]         50/60         50/60         50/60         10 <t< td=""><td>Temperature fluctuation at 37 °C [± K]</td><td>0.1</td><td>0.1</td></t<>	Temperature fluctuation at 37 °C [± K]	0.1	0.1
Rated Voltage [V]         200240         200240           Power frequency [Hz]         50/60         50/60           Nominal power [kV]         2.3         2.3           Unit fuse [A]         16         6           Phase (Nominal voltage)         1-         7-           Phase (Nominal voltage)         50         98           Measures         1-         98           Net weight of the unit (empt) [kg]         304         304           Net weight of the unit (empt) [kg]         304         304           permitted load [kg]         45         45           Cad per rack [kg]         45         45           Wall clearance back [mm]         100         100           Wall clearance sidewise [mm]         100         10           Unit doors         2         2           Unit doors         2         2           Internal Dimensions         2         2           Internal Dimensions         56         56           Height [mm]         576         56           Height [mm]         1250         125           Housing dimensions not incl. fittings and connections         1250         125           Height net [mm]         1250	Recovery time after 30 seconds door open at 37 °C [min]	3	3
Power frequency [Hz]         50/60         50/60           Nominal power [kW]         2.3         2.3           Unit fuse [A]         16         6           Phase (Nominal voltage)         1-         6           Phase (Nominal voltage)         1-         6           Weasures         Frequency [Hz]         698         698           Net weight of the unit (empty) [kg]         304         304           Net weight of the unit (empty) [kg]         304         304           Permitted load [kg]         150         150           Load per rack [kg]         45         45           Wall clearance back [mm]         100         100           Wall clearance sidewise [mm]         100         100           Wall clearance sidewise [mm]         2         2           Inner doors         2         2         2           Unit doors         2         2         2           Inner doors         2         2         2           Unit doors         576         576         576           Unit doors         150         576         576           Unit doors         150         576         576           Width [mm]         150	Electrical data		
Nominal power [kW]         2.3         2.3           Unit fuse [A]         16         16           Phase (Nominal voltage)         1~         1~           Measures         ***********************************	Rated Voltage [V]	200240	200240
Unit fuse [A]         16         16           Phase (Nominal voltage)         1~         1~           Measures         Interior volume [L]         698         698           Net weight of the unit (empty) [kg]         304         304           Permitted load [kg]         150         150           Load per rack [kg]         45         45           Wall clearance back [mm]         100         100           Wall clearance sidewise [mm]         100         100           Doors         Unit doors         2         2           Unit doors         2         2         2           Unit doors         576         576         576           Height [mm]         250         250         250           Width [mm]         970         970         970           Housing dimensions not incl. fittings and connections         250         1250         1250         1250           Height net [mm]         1925         1925         1925         1925         1925         1925         1925         1925         1925         1925         1925         1925         1925         1925         1925         1925         1925         1925         1925         <	Power frequency [Hz]	50/60	50/60
Phase (Nominal voltage)         1-         4-           Measures         1-         698         698           Net weight of the unit (empty) [kg]         304         304           permitted load [kg]         150         150           Load per rack [kg]         45         45           Wall clearance back [mm]         100         100           Wall clearance sidewise [mm]         100         100           Wall clearance sidewise [mm]         2         2           Unit doors         2         2           Unit doors         2         2           Unit doors         576         576           Height [mm]         1250         1250           Width [mm]         970         970           Housing dimensions not incl. fittings and connections         1250         1250           Width net [mm]         1925         1925           Depth net [mm]         885         85           Depth net [mm]         885         85           Environment-specific data         1920         360           Environment-specific data         360         36           Environment-specific data         360         36           Environment-specific data	Nominal power [kW]	2.3	2.3
Measures           Interior volume [L]         698         698           Net weight of the unit (empty) [kg]         304         304           permitted load [kg]         150         150           Load per rack [kg]         45         45           Wall clearance back [mm]         100         100           Wall clearance sidewise [mm]         100         100           Doors         Very Company         2           Unit doors         2         2           Unit doors         576         576           Height [mm]         1250         1250           Width [mm]         970         970           Housing dimensions not incl. fittings and connections         1250         1250           Width net [mm]         1250         1250           Height net [mm]         1250         1250           Oppth net [mm]         885         885           Environment-specific data         885         885           Environment-specific data         53         36           Fixtures         53         53	Unit fuse [A]	16	16
Interior volume [L]         698         698           Net weight of the unit (empty) [kg]         304         304           permitted load [kg]         150         150           Load per rack [kg]         45         45           Wall clearance back [mm]         100         100           Wall clearance sidewise [mm]         100         100           Doors         Very clear considering and consections         2         2           Unit doors         2         2         2           Internal Dimensions         576         <	Phase (Nominal voltage)	1~	1~
Net weight of the unit (empty) [kg]         304         304           permitted load [kg]         150         150           Load per rack [kg]         45         45           Wall clearance back [mm]         100         100           Wall clearance sidewise [mm]         100         100           Doors         ************************************	Measures		
permitted load [kg]         150         150           Load per rack [kg]         45         45           Wall clearance back [mm]         100         100           Wall clearance sidewise [mm]         100         100           Doors         The pool of t	Interior volume [L]	698	698
Load per rack [kg]         45           Wall clearance back [mm]         100           Wall clearance sidewise [mm]         100           Wall clearance sidewise [mm]         100           Doors	Net weight of the unit (empty) [kg]	304	304
Wall clearance back [mm]       100       100         Wall clearance sidewise [mm]       100       100         Doors       Inner doors       2       2         Unit doors       2       2         Internal Dimensions       V       2         Depth [mm]       576       576         Height [mm]       1250       1250         Width [mm]       970       970         Housing dimensions not incl. fittings and connections       1250       1250         Width net [mm]       1250       1250       1250         Height net [mm]       1925       1925       1925         Depth net [mm]       885       885       885         Environment-specific data       885       885         Environment-specific data       360       360         Sound-pressure level [dB(A)]       360       360         Sound-pressure level [dB(A)]       360       36	permitted load [kg]	150	150
Wall clearance sidewise [mm]       100       100         Doors       100       100         Inner doors       2       2         Unit doors       2       2         Internal Dimensions       576       576         Pepth [mm]       576       576         Height [mm]       1250       1250         Width [mm]       970       970         Housing dimensions not incl. fittings and connections       1250       1250         Width net [mm]       1250       1250       1250         Height net [mm]       1925       1925       1925         Depth net [mm]       885       885       885         Environment-specific data       885       885         Energy consumption at 37 °C [Wh/h]       360       360         Sound-pressure level [dB(A)]       360       360         Fixtures	Load per rack [kg]	45	45
Doors         2         2           Unit doors         2         2           Unit doors         2         2           Internal Dimensions         Fig. 1         Fig. 2           Depth [mm]         576         576           Height [mm]         1250         1250           Width [mm]         970         970           Housing dimensions not incl. fittings and connections         Width net [mm]         1250         1250           Height net [mm]         1925         1925           Depth net [mm]         885         885           Environment-specific data         885         885           Energy consumption at 37 °C [Wh/h]         360         360           Sound-pressure level [dB(A)]         53         36           Fixtures	Wall clearance back [mm]	100	100
Inner doors         2         2           Unit doors         2         2           Internal Dimensions         Frequency         Frequency         576           Height [mm]         576         576           Height [mm]         1250         1250           Width [mm]         970         970           Housing dimensions not incl. fittings and connections         1250         1250           Width net [mm]         1925         1925           Depth net [mm]         885         885           Environment-specific data         885         885           Energy consumption at 37 °C [Wh/h]         360         360           Sound-pressure level [dB(A)]         53         53           Fixtures	Wall clearance sidewise [mm]	100	100
Unit doors         2         2           Internal Dimensions         For Each Manage of The Property (Imm)         576         576           Depth [mm]         1250         1250         1250           Width [mm]         970         970         970           Housing dimensions not incl. fittings and connections         1250         1250           Width net [mm]         1925         1925           Depth net [mm]         885         885           Environment-specific data         885         885           Energy consumption at 37 °C [Wh/h]         360         360           Sound-pressure level [dB(A)]         53         53           Fixtures	Doors		
Internal Dimensions           Depth [mm]         576         576           Height [mm]         1250         1250           Width [mm]         970         970           Housing dimensions not incl. fittings and connections         1250         1250           Width net [mm]         1250         1925           Height net [mm]         1925         1925           Depth net [mm]         885         885           Environment-specific data         Energy consumption at 37 °C [Wh/h]         360         360           Sound-pressure level [dB(A)]         53         53           Fixtures	Inner doors	2	2
Depth [mm]         576         576           Height [mm]         1250         1250           Width [mm]         970         970           Housing dimensions not incl. fittings and connections         ************************************	Unit doors	2	2
Height [mm]       1250       1250         Width [mm]       970       970         Housing dimensions not incl. fittings and connections	Internal Dimensions		
Width [mm]       970       970         Housing dimensions not incl. fittings and connections       1250       1250         Width net [mm]       1925       1925         Height net [mm]       885       885         Depth net [mm]       885       885         Environment-specific data       50       360         Sound-pressure level [dB(A)]       53       53         Fixtures	Depth [mm]	576	576
Housing dimensions not incl. fittings and connections         Width net [mm]       1250       1250         Height net [mm]       1925       1925         Depth net [mm]       885       885         Environment-specific data       ***         Energy consumption at 37 °C [Wh/h]       360       360         Sound-pressure level [dB(A)]       53       53         Fixtures	Height [mm]	1250	1250
Width net [mm]       1250       1250         Height net [mm]       1925       1925         Depth net [mm]       885       885         Environment-specific data       ***         Energy consumption at 37 °C [Wh/h]       360       360         Sound-pressure level [dB(A)]       53       53         Fixtures	Width [mm]	970	970
Height net [mm]       1925         Depth net [mm]       885       885         Environment-specific data       Sound-pressure level [dB(A)]       360       360         Sound-pressure level [dB(A)]       53       53         Fixtures	Housing dimensions not incl. fittings and connections		
Depth net [mm]       885       885         Environment-specific data       Sound-pressure level [dB(A)]       360       360         Sound-pressure level [dB(A)]       53       53         Fixtures	Width net [mm]	1250	1250
Environment-specific data  Energy consumption at 37 °C [Wh/h] 360 360  Sound-pressure level [dB(A)] 53 53  Fixtures	Height net [mm]	1925	1925
Energy consumption at 37 °C [Wh/h] 360 360 Sound-pressure level [dB(A)] 53 53 Fixtures	Depth net [mm]	885	885
Sound-pressure level [dB(A)] 53 53 Fixtures	Environment-specific data		
Fixtures	Energy consumption at 37 °C [Wh/h]	360	360
	Sound-pressure level [dB(A)]	53	53
Number of shelves (std./max.)         2/15         2/15	Fixtures		
	Number of shelves (std./max.)	2/15	2/15

<sup>1</sup> 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	30 mm	01	8012-0647
plug	50 mm	01	8012-0652
	top		
	30 mm	01	8012-0649
	50 mm	01	8012-0650
	100 mm	01	8012-0651
Alarm output, zero- voltage	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-	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.		
Edition	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
temperature	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 temperature 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	-	8012-1777
and and an illustration of	with two 15 W light bulbs		
Interior lighting	230/240 V option model	02	8012-1071
nterior 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
Notes > See last page		-	

<sup>\*</sup> Notes > See last page



Designation	Description	*	ArtNo.
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	-	8012-110
	Basic set 500, length 50 cm	-	8012-1108
	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)	-	8012-067
Shelf, perforated	Stainless steel	-	8009-048
Shelf, reinforced	positioned at bottom level, max. load 67 kg, with additional attachment for operation of shaking device, stirring device or roller bottle system	-	8012-067
* Natas : Cas last assa			

<sup>\*</sup> 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

<sup>\*</sup> 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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