# Model KB 720 | Cooling incubators with powerful compressor cooling

The powerful virtuoso in cooling incubators for microorganisms: the KB masters temperature ranges from -10 °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



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## **MAIN FEATURES**

- Temperature range: -10 °C to +100 °C
- APT.line™ 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

- 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**

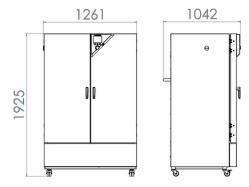
Interior volume [L]	Voltage	Option model	Version	ArtNo.
400	200230 V 1~ ph 50/60 Hz	Standard	KB720-230V	9020-0204
698	200240 V 1~ ph 50/60 Hz	Standard	KB720UL-240V	9020-0306

#### **TECHNICAL DATA**

Article Munder         920-0004	Description	KB720-230V <sup>1</sup>	KB720UL-240V1
Temperature variation at 3 τ° (1 κ	Article Number	9020-0204	9020-0306
Temperature variation at 37 °C [ k ]         0.2         0.2           Temperature fluctuation at 37 °C [ k ]         0.1         0.1           Recovery time after 30 seconds door open at 37 °C [min]         3         0.2           Recovery time after 30 seconds door open at 37 °C [min]         200230         200240           Reted Voltage [V]         20020         200240           Power frequency [kt]         2,3         2.3           Nominal power [kW]         2,3         2.3           Phase (Nominal voltage)         1-0         1.0           Phase (Nominal voltage)         1-0         1.0           Phase (Nominal voltage)         698         698           Westured         509         698           Measures         1.0         50           Interior Volume [L]         698         698           Met weight of the unit (empty) [kg]         30         90           Wall clearance back [mm]         100         10           Wall clearance sidevise [mm]         97         70           Interior depth [mm]         97         70           Interior depth [mm]         250         2           Interior depth [mm]         20         2           Unit doors <td< td=""><td>Performance Data Temperature</td><td></td><td></td></td<>	Performance Data Temperature		
Recover time after 30 seconds door open at 37°C [rin]         0.1 <th< td=""><td>Temperature range [°C]</td><td>-10100</td><td>-10100</td></th<>	Temperature range [°C]	-10100	-10100
Recovery time after 30 seconds door open at 37 °C (min)         3         3           Electrical date         University (and to large (M) to large (M	Temperature variation at 37 °C [± K]	0.2	0.2
Electrical data         Electrical data         Electrical data         Electrical data         200230         200240           Power frequency [Ft2]         50/60 <td>Temperature fluctuation at 37 °C [± K]</td> <td>0.1</td> <td>0.1</td>	Temperature fluctuation at 37 °C [± K]	0.1	0.1
Rated Voltage [V]         200-230         200-240           Power frequency [Ftz]         50/60         50/60           Nominal power [kV]         2.3         2.3           Unit fuse [A]         6         6           Phase (Pominal voltage)         1-         6           Measures	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-         1-           Western (Storman Line)         1-           Measures         598         698           Net weight of the unit (empty) [kg]         698         698           Net weight of the unit (empty) [kg]         309         309           Permitted load [kg]         150         50           Uall clearance back [mg]         160         45           Wall clearance sidewise [mg]         100         00           Wall clearance sidewise [mg]         970         970           Interior width [mm]         970         970           Interior width [mm]         970         970           Interior width [mm]         2         2           Horizon depth [mm]         2         2           Interior width [mm]         2         2           Unit doors         2         2           Unit doors         2         2           Unit doors         2         2           Unit doors         2         2 <th< td=""><td>Electrical data</td><td></td><td></td></th<>	Electrical data		
Nominal power [kW]         2.3         2.3           Unit fuse [A]         16         16           Phase (Nominal voltage)         1-         1-           Measures         The control of the unit (empty) [kg]         698         68           Net weight of the unit (empty) [kg]         309         309           Permitted load [kg]         150         30         30           Uall clearance back [km]         100         100         30           Wall clearance back [km]         970         970           Uall clearance sidewise [mm]         970         970           Interior width [mm]         970         970           Interior height [mm]         250         250           Interior doth [mm]         26         26           Boors         2         2           Unit doors         2         2           Interior height [mm]         2         2           Unit doors         2         2           Unit doors         2         2           Interior height [mm]         2         2           Unit doors         2         2           Unit doors         2         2           Unit doors         2 <t< td=""><td>Rated Voltage [V]</td><td>200230</td><td>200240</td></t<>	Rated Voltage [V]	200230	200240
Unit fuse [A]         16         16           Phase (Nominal voltage)         1-         1-           Measures         Interior voltume [L]         698         698           Net weight of the unit (empty) [kg]         309         309           Permitted load [kg]         150         150           Load per rack [kg]         45         45           Wall clearance back [mm]         100         100           Wall clearance sidewise [mm]         970         970           Interior width [mm]         970         970           Interior width [mm]         56         69           Interior width [mm]         56         970           Interior width [mm]         290         290           Interior width [mm]         56         98           Interior width [mm]         290         1250           Interior width [mm]         290         220           Interior width [mm]         290         290           Interio	Power frequency [Hz]	50/60	50/60
Phase (Nominal voltage)         1-           Measures           Interior volume [L]         698         698           Net weight of the unit (empty) [kg]         309         309           Permitted load [kg]         150         150           Load per rack [kg]         45         45           Wall clearance sidewise [mm]         100         100           Wall clearance sidewise [mm]         970         970           Interior width [mm]         970         970           Interior depth [mm]         1250         56           Interior depth [mm]         250         56           Interior depth [mm]         2         2           Interior depth [mm]         2	Nominal power [kW]	2.3	2.3
Measures           Interior volume [L]         698         698           Net weight of the unit (empty) [kg]         309         309           Permitted load [kg]         150         150           Load per rack [kg]         45         45           Wall clearance back [mm]         100         100           Wall clearance sidewise [mm]         970         970           Interior width [mm]         1250         1250           Interior depth [mm]         576         576           Doors         2         2           Unit doors         2         2           Housing dimensions not incl. fittings and connections         2         2           Width net [mm]         1250         2           Housing dimensions not incl. fittings and connections         2         250           Width net [mm]         1250         1250           Depth 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]         309         309           Permitted load [kg]         150         150           Load per rack [kg]         45         45           Wall clearance back [mm]         100         100           Wall clearance sidewise [mm]         100         100           Interior width [mm]         970         970           Interior height [mm]         1250         1250           Interior dopth [mm]         576         576           Doors         2         2           Unit doors         2         2           Housing dimensions not incl. fittings and connections         2         2           Width net [mm]         1250         1250           Beight net [mm]         1250         1250           Beight net [mm]         1250         1250           Depth net [mm]         885         85           Environment-specific data         85         85           Environment-specific data         53         53           Fixtures         53         53	Phase (Nominal voltage)	1~	1~
Net weight of the unit (empty) [kg]         309         309           Permitted load [kg]         150         150           Load per rack [kg]         45         45           Wall clearance back [mm]         100         100           Wall clearance sidewise [mm]         100         100           Interior width [mm]         970         970           Interior width [mm]         1250         1250           Interior depth [mm]         576         576           Doors         2         2           Unit doors         2         2           Housing dimensions not incl. fittings and connections         1250         1250           Width net [mm]         1250         1250           Height net [mm]         1250         1250           Depth net [mm]         1250         1250           Depth net [mm]         1250         1250           Energy consumption at 37 °C [Wh/h]         885         885           Energy consumption at 37 °C [Wh/h]         360         360           Sound-pressure level [dB(A)]         53         36	Measures		
Permitted load [kg]         150         150           Load per rack [kg]         45         45           Wall clearance back [mm]         100         100           Wall clearance sidewise [mm]         100         100           Internal Dimensions         "YO         100           Interior width [mm]         970         970           Interior depth [mm]         1250         1250           Interior depth [mm]         576         576           Doors         2         2           Unit doors         2         2           Housing dimensions not incl. fittings and connections         2         2           Width net [mm]         1250         1250           Beight net [mm]         1250         1250           Depth net [mm]         885         885           Entriornment-specific data         885         885           Energy consumption at 37 °C [Wh/h]         360         360           Sound-pressure level [dB(A)]         360         360           Sound-pressure level [dB(A)]         360         360	Interior volume [L]	698	698
Load per rack [kg]         45         45           Wall clearance back [mm]         100         100           Wall clearance sidewise [mm]         100         100           Internal Dimensions	Net weight of the unit (empty) [kg]	309	309
Wall clearance back [mm]         100         100           Wall clearance sidewise [mm]         100         100           Internal Dimensions             Interior width [mm]         970         970           Interior height [mm]         1250         1250           Interior depth [mm]         576         576           Doors             Unit doors         2         2           Housing dimensions not incl. fittings and connections             Width net [mm]         1250         1250           Height net [mm]         1925         1925           Depth net [mm]         885         85           Environment-specific data             Environment-specific data             Environment-specific data             Environment-specific data             Environment-specific data             Sound-pressure level (dB(A))              Sound-pressure level (dB(A))	Permitted load [kg]	150	150
Wall clearance sidewise [mm]         100         100           Internal Dimensions         70         970           Interior width [mm]         970         970           Interior height [mm]         1250         1250           Interior depth [mm]         576         576           Doors         70         70           Unit doors         2         2           Housing dimensions not incl. fittings and connections         2         2           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)]         360         360           Fixtures	Load per rack [kg]	45	45
Internal Dimensions         Interior width [mm]         970         970           Interior height [mm]         1250         1250           Interior depth [mm]         576         576           Doors         ************************************	Wall clearance back [mm]	100	100
Interior width [mm]         970         970           Interior height [mm]         1250         1250           Interior depth [mm]         576         576           Doors         Value         2           Unit doors         2         2           Housing dimensions not incl. fittings and connections         Vidth net [mm]         1250         1250           Height net [mm]         1925         1925           Depth net [mm]         885         885           Environment-specific data         885         885           Found-pressure level [dB(A)]         360         360           Sound-pressure level [dB(A)]         360         360           Fixtures	Wall clearance sidewise [mm]	100	100
Interior height [mm]         1250         1250           Interior depth [mm]         576         576           Doors         ************************************	Internal Dimensions		
Interior depth [mm]         576         576           Doors            Inner doors         2         2           Unit doors         2         2           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	Interior width [mm]	970	970
Doors           Inner doors         2         2           Unit doors         2         2           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         ***         ***	Interior height [mm]	1250	1250
Inner doors         2         2           Unit doors         2         2           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         ***         ***	Interior depth [mm]	576	576
Unit doors 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Doors		
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	Inner doors	2	2
Width net [mm]       1250       1250         Height net [mm]       1925       1925         Depth net [mm]       885       885         Environment-specific data       360       360         Sound-pressure level [dB(A)]       53       53         Fixtures	Unit doors	2	2
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	Housing dimensions not incl. fittings and connections		
Depth net [mm]         885         885           Environment-specific data	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**

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
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
Door lock	lockable door handle	-	8012-1777
Pt 100 temperature sensor	additional flexible Pt 100, interior, for displaying the temperature on the unit display	-	8012-1079
Shelf, reinforced	positioned at bottom level, max. load 45 kg, with additional attachment for operation of shaking device, stirring device or roller bottle system	-	8012-0673

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

## **ACCESSORIES**

Designation	Description	*	ArtNo.
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.		
Edition	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

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

Designation	Description	*	ArtNo.
	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
	Basic set 900, length 90 cm	-	8012-1109
LED light bars	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
	Expansion set 900, length 90 cm	-	8012-1718
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	-	8012-225
	$IQ/OQ$ 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	-	7057-000
Ouglification documents	Hard copy inside folder	-	7007-000
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	-	7057-000
	Hard copy inside folder	-	7007-000
Rack	stainless steel	-	8012-205
Rack accessories	fasteners (1 set of 4) for additional security of racks	-	8012-228
Rack, reinforced	stainless steel, with fasteners (1 set of 4)	-	8012-067
Shelf, perforated	Stainless steel	-	8012-225
The kit contains a client bridge that establishes a wireless connection between BINDER units and APT-COM4, LIMS, or customer-specific software via an Ethernet interface. It provides an alternative solution in situations where units need to be positioned in locations without an on-site Ethernet connection. In secured networks, installation and configuration must be performed by the customer's IT service.		-	8012-226

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

# **SERVICES**

Designation	Description	*	ArtNo.
Maintenance contracts			
Installation services			
Calibration services			
Validation services			
Maintenance services			
Warranty service			
1-year warranty extension	The warranty is extended by 1 year from the delivery date, wear parts are excluded	-	DL50-0010
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	DL20-0710
Calibration certificate, temperature	Calibration of one (1) test temperature specified by the user in center of chamber, including certificate	03, 04, 05	DL30-010:
	Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate	03, 04, 05	DL30-010:
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder	05	DL41-020
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder	05	DL44-050
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 test temperature specified by the user in the center of the usable space, including certificate	05	DL20-091
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	DL20-020
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	DL20-081
****	test temperature specified by the user in the center of the usable space, without certificate		

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

## Data Sheet Model KB 720

Designation	Description	*	ArtNo.
Temperature measurement, 18 measuring points	Temperature measurement with 18 measuring points with a set value specified by the user, including certificate	03, 04, 05	DL30-0118
Temperature measurement, 27 measuring points	Temperature measurement with 27 measuring points with a set value specified by the user, including certificate	03, 04, 05	DL30-0127
Temperature measurement, 9 measuring points	Temperature measurement with 9 measuring points with a set value specified by the user, including certificate	03, 04, 05	DL30-0109
Connect the unit to the customer-side connections (electricity, water, wastewater, gas), basic functions Unit commissioning check, brief operating instructions. (excl.: unpacking, setup, controller instructions, programming, installation work)		05	DL10-0100
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming	05	DL10-0500

<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. UL mark is not granted when this option is used.
- 02
- Sensor calibration is performed in an accredited calibration laboratory. 03
- 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).

# **BINDER GmbH**

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