

Model KBF LQC 720 | Constant climate chambers with ICH-compliant light source and light dose control

The main advantage of the BINDER KBF LQC series is the patented light photometry for photostability tests. Two 3D spherical sensors control the light dosage of UV-A and visible light. Once the desired light dosage is achieved, the chamber switches off automatically.

BENEFITS

- Safe thanks to climatic homogeneity that far exceeds the accuracy required by ICH guidelines, even with a fully loaded unit. The light spectrum is 100% compliant with ICH requirements.
- Reliable thanks to failsafe operation without compromise. The interior and Longlife evaporator plate are made entirely from stainless steel.
- Smart, as a wide range of accessories makes it highly compatible for adaptation to specific customer requirements.
- Economical thanks to maximum effective volume which allows for 30% larger load compared to the competition.



Model 720

MAIN FEATURES

- Temperature range: 0 °C to +70 °C
- Temperature range with light: +10 °C to +60 °C
- Humidity range: 10 % to 80 % RH
- 3 positionable illumination cassettes with ICH-compliant UV/Vis light source
- Independent light-dose control of UV-A and visible light with spherical sensors
- APT.line™ preheating chamber technology
- Humidity regulation with capacitive humidity sensor and vapor humidification
- Inner chamber made of stainless steel
- BINDER Multi Management Software APT-COM™ Basic Edition
- Intuitive touchscreen controller with time-segment and real-time programming
- Internal data logger, measured values can be read out in open format via USB
- Unit self-test for comprehensive status analysis
- Tight-sealing inner door made of safety glass (ESG) with special TIMELESS coating
- 3 stainless steel racks
- Access port with silicone plug, 30 mm, left
- 4 stable castors, two with brakes
- Class 3.1 independent temperature safety device (DIN 12880) with visual and audible temperature alarm
- Computer interface: Ethernet
- Door heating

ORDERING INFORMATION

| Interior volume [L] | Voltage | Option model | Version | Art.-No. |
|---------------------|----------------------------|--------------|------------------|-----------|
| 700 | 200...230 V 1~ ph 50 Hz | Standard | KBFLQC720-230V | 9020-0334 |
| | 200...240 V 1~ ph 50/60 Hz | Standard | KBFLQC720UL-240V | 9020-0335 |

TECHNICAL DATA

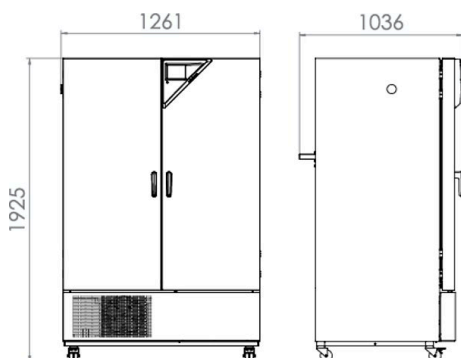
| Description | KBFLQC720-230V ¹ | KBFLQC720UL-240V ¹ |
|--|-----------------------------|-------------------------------|
| Article Number | 9020-0334 | 9020-0335 |
| Performance Data Temperature | | |
| Temperature range with 100% illumination [°C] | 10...60 | 10...60 |
| Temperature range without illumination cassettes [°C] | 0...70 | 0...70 |
| Max. heat compensation at 40 °C with illumination [W] | 1000 | 1000 |
| Performance Data Climate | | |
| Temperature range with 100% illumination [°C] | 20...60 | 20...60 |
| Temperature range without illumination cassettes [°C] | 10...70 | 10...70 |
| Temperature variation with illumination at 25 °C and 60 % RH [± K] | 1.2 | 1.2 |
| Temperature variation with illumination at 40 °C and 75 % RH [± K] | 1.2 | 1.2 |
| Temperature fluctuation with illumination at 25 °C and 60 % RH [± K] | 0.2 | 0.2 |
| Temperature fluctuation with illumination at 40 °C and 75 % RH [± K] | 0.2 | 0.2 |
| Humidity range with illumination cassettes, with illumination [% RH] | 10...75 | 10...75 |
| Humidity range without illumination [% RH] | 10...80 | 10...80 |
| Humidity fluctuation with illumination at 25 °C and 60 % RH [± % RH] | 2 | 2 |
| Humidity fluctuation with illumination at 40 °C and 75 % RH [± % RH] | 2 | 2 |
| Recovery time after 30 seconds door open at 25 °C and 60 % RH with illumination [min] | 1 | 1 |
| Recovery time after 30 seconds door open at 40 °C and 75 % RH with illumination [min] | 5 | 5 |
| Lightdata per Illumination Cassettes | | |
| ICH compliant illumination for photo stability testing [lx] ^{*2} | 9000 | 9000 |
| ICH compliant illumination for photo stability testing [W/m ²] ^{*2} | 1.5 | 1.5 |
| Electrical data | | |
| Rated Voltage [V] | 200...230 | 200...240 |
| Power frequency [Hz] | 50 | 50/60 |
| Nominal power [kW] | 3.5 | 3.5 |
| Unit fuse [A] | 16 | 16 |
| Phase (Nominal voltage) | 1~ | 1~ |
| Measures | | |
| Interior volume [L] | 700 | 700 |
| Net weight of the unit (empty) [kg] | 374 | 374 |
| Permitted load [kg] | 150 | 150 |
| Load per rack [kg] | 45 | 45 |
| Wall clearance back [mm] | 100 | 100 |
| Wall clearance sidewise [mm] | 200 | 200 |
| Internal Dimensions | | |
| Width [mm] | 973 | 973 |
| Height [mm] | 1250 | 1250 |
| Depth [mm] | 576 | 576 |
| Doors | | |
| Inner doors | 2 | 2 |
| Unit doors | 2 | 2 |

- 1 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.
- 2 Average value, measured at 25 °C with a spherical sensor (±10 %) by 12 cm below the light cassette. The values given in W/m² refer to global radiation.

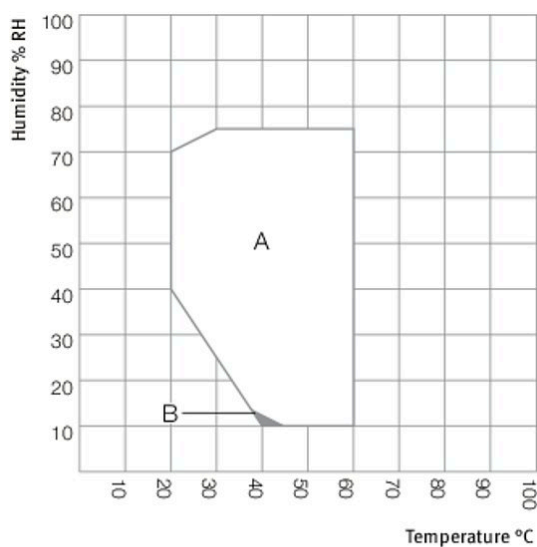
| Description | KBFLQC720-230V ¹ | KBFLQC720UL-240V ¹ |
|---|-----------------------------|-------------------------------|
| Article Number | 9020-0334 | 9020-0335 |
| Housing dimensions not incl. fittings and connections | | |
| Width net [mm] | 1250 | 1250 |
| Height net [mm] | 1925 | 1925 |
| Depth net [mm] | 890 | 890 |
| Environment-specific data | | |
| Energy consumption at 40 °C and 75 % RH [Wh/h] | 2350 | 2350 |
| Sound-pressure level [dB(A)] | 53 | 53 |
| Fixtures | | |
| Number of shelves (std./max.) | 3/12 | 3/12 |
| Number of illumination cassettes (std./max.) | 3/3 | 3/3 |

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DIMENSIONS incl. fittings and connections [mm]



CHARTS



A: Guaranteed condensation-free range

B: Deviations of technical data may be possible

Climate chart

OPTIONS

| Designation | Description | * | Art.-No. |
|--|---|-----------|-----------|
| Access port with silicone plug | left | | |
| | 30 mm | 01 | 8012-1443 |
| | 50 mm | 01 | 8012-1473 |
| | 100 mm | 01 | 8012-1340 |
| | right | | |
| | 30 mm | 01 | 8012-1437 |
| | 50 mm | 01 | 8012-1467 |
| | 100 mm | 01 | 8012-1337 |
| | top | | |
| | 30 mm | 01 | 8012-1449 |
| 50 mm | 01 | 8012-1455 | |
| 100 mm | 01 | 8012-1461 | |
| Alarm output, zero-voltage | for temperature (± 2 °C) and humidity (± 5 % RH), accessible via 6-pin DIN socket (max. 24 V - 2.5 A), with audible signal that can be switched off | - | 8012-1763 |
| Analog output 4-20 mA | for temperature and humidity values (output not adjustable) | - | 8012-1739 |
| Calibration certificate, expanded | for temperature and humidity; for extending the measurement in center of chamber to include another test value | - | 8012-1189 |
| Calibration certificate, temperature | temperature measurement incl. certificate and 27 measuring points at specified temperature | - | 8012-1604 |
| | temperature measurement incl. certificate, 15- 18 measuring points at specified temperature | - | 8012-1584 |
| | temperature measurement incl. certificate, 9 measuring points at specified temperature | - | 8012-1563 |
| Calibration certificate, temperature and humidity | Measurement in center of chamber at 25 °C / 60% RH or at specified test values | - | 8012-1183 |
| | temperature (according to DIN12880) and humidity measurement incl. certificate, 27 temperature measuring points and 1 humidity measuring point, at 25 °C / 60 % RH or at specified values | - | 8012-1610 |
| Class 3.3 independent temperature safety device | with visual alarm (DIN 12880) | - | 8012-1755 |
| Door lock | lockable door handle | - | 8012-1661 |
| Light photometry | including certificate, illumination and irradiance for visible light, 25 measuring points on 3 measurement levels, as well as spectral distribution (385 – 785 nm) | - | 8012-0909 |
| RS 485 interface, 2-wire | Additional serial interface can be used parallel to Ethernet, for Multi Management Software APT-COM™ | - | 8012-1744 |
| Shelf, reinforced | positioned at bottom level, max. load 45 kg, with additional attachment for operation of shaking device, stirring device or roller bottle system | - | 8012-1490 |

* Notes › See last page

ACCESSORIES

| Designation | Description | * | 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 |
| BINDER PURE AQUA SERVICE | System for preparation or complete desalination of tap water, complete set containing PURE AQUA 300 single-use cartridge, measuring device, and all necessary connecting parts | - | 8012-0759 |
| BINDER PURE AQUA SERVICE, accessories | Single-use, replacement cartridge for BINDER PURE AQUA System | - | 6011-0165 |
| pH-neutral detergent | concentrated, for gentle remove of residual contaminants; 1 kg | - | 1002-0016 |

* Notes › See last page

| Designation | Description | * | Art.-No. |
|-------------------------------------|--|---|-----------|
| Qualification documents | IQ/OQ documents – supporting documents for validation performed by customers, consisting of: IQ/OQ checklists incl. calibration guide and comprehensive unit documentation; parameters: temperature, humidity, and light values | | |
| | Digital in PDF format | – | 7057-0003 |
| | Hard copy inside folder | – | 7007-0003 |
| | 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, humidity, and light values | | |
| | Digital in PDF format | – | 7057-0007 |
| | Hard copy inside folder | – | 7007-0007 |
| Rack | stainless steel | – | 8012-2051 |
| Rack accessories | fasteners (1 set of 4) for additional security of racks | – | 8012-0620 |
| Rack, reinforced | stainless steel, with fasteners (1 set of 4) | – | 8012-0674 |
| RS 485 / RS 422 interface converter | RS 422 cable set and RS 485 / RS 422 interface converter for connection to 10-way plug distributor | | |
| | 115 V option model | – | 8012-0599 |
| | 230 V option model | – | 8012-0589 |
| Shelf, perforated | Stainless steel | – | 8009-0486 |
| Water supply set | consisting of fresh- and waste-water containers (20 liters each), cabling and pump | | |
| | external, for hanging from the back of the device | – | 8012-0643 |
| | external, free-standing | – | 8012-1846 |
| WLAN kit | 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. | – | 8500-0164 |

* Notes › See last page

SERVICES

| Designation | Description | * | Art.-No. |
|---|--|------------|-----------|
| Installation services | | | |
| Unit commissioning | 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) | 05 | DL10-0300 |
| Unit instructions | Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming | 05 | DL10-0700 |
| Maintenance contracts | | | |
| Maintenance services | | | |
| 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 |
| 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 temperature/humidity/pressure value, including certificate | 05 | DL20-0930 |
| 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 | DL20-0400 |
| 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 | DL20-0820 |
| Calibration services | | | |
| Light photometry | including certificate, 25 measuring points on 3 measurement levels, intensity measurements for visible light and UVA, as well as spectral distribution (qualitative spectral measurements 250 – 785 nm) | 03, 04, 05 | DL30-0525 |
| Temperature and humidity calibration | Expansion –Temperature and humidity calibration with 1 measuring point in center of chamber with 1 specified pair of values, including certificate | 03, 04, 05 | DL30-0302 |
| | Temperature and humidity calibration with 1 measuring point in center of chamber with 1 specified pair of values, including certificate | 03, 04, 05 | DL30-0301 |
| Temperature and humidity measurement according to DIN12880 | Temperature measurement in accordance with DIN 12880 with 27 temperature measuring points and 1 humidity measuring point in center of chamber with a pair of values specified by the user, including certificate | 03, 04, 05 | DL30-0427 |
| Temperature and humidity measurement, 18-1 measuring points | Temperature measurement with 18 temperature measuring points and 1 humidity measuring point in center of chamber with a pair of values specified by the user, including certificate | 03, 04, 05 | DL30-0318 |

* Notes › See last page

| Designation | Description | * | Art.-No. |
|---|---|------------|-----------|
| Temperature and humidity measurement, 27-1 measuring points | Temperature measurement with 27 temperature measuring points and 1 humidity measuring point in center of chamber with a pair of values specified by the user, including certificate | 03, 04, 05 | DL30-0327 |
| Temperature and humidity measurement, 9-1 measuring points | Temperature measurement with 9 temperature measuring points and 1 humidity measuring point in center of chamber with a pair of values specified by the user, including certificate | 03, 04, 05 | DL30-0309 |
| Validation services | | | |
| Execution of IQ/OQ incl. light photometry | Execution of IQ/OQ including light photometry in accordance with qualification folder | 05 | DL43-0400 |
| Execution of IQ/OQ/PQ | Execution of IQ/OQ/PQ in accordance with qualification folder | 05 | DL44-0500 |
| Warranty service | | | |
| 1-year warranty extension | The warranty is extended by 1 year from the delivery date, wear parts are excluded | - | DL50-0030 |

* 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 Sensor calibration is performed in an accredited calibration laboratory.
- 04 Calibration is performed according to the BINDER factory standard.
- 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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