

Model KBF P 240 | Constant climate chambers with ICH-compliant light source

The KBF P constant climate chamber, equipped with ICH-compliant light source, is an expert when it comes to photostability tests and ensures clear test results in accordance with ICH Guideline Q1B. At the same time, the variable-position illumination cassettes offer homogeneous lighting conditions.

BENEFITS

- Homogeneous climate conditions thanks to APT.line™ technology
- Automatic water and wastewater management
- Pressure humidification with fast response times
- Variable position and removable illumination cassettes
- ICH-compliant illumination for long-term stable test conditions



Model 240



Model 240

MAIN FEATURES

- Temperature range: 0 °C to 70 °C
- Temperature range with light: 10 °C to 60 °C
- Humidity range: 10 % to 80 % RH
- 2 positionable illumination cassettes with ICH-compliant UV/Vis light source
- APT.line™ preheating chamber technology
- Humidity regulation with capacitive humidity sensor and vapor humidification
- Inner chamber made of stainless steel
- 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)
- Avoidance of glass corrosion by special TIMELESS coating
- 2 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. |
|---------------------|----------------------------|--------------|----------------|-----------|
| Model KBF P 240 | | | | |
| 247 | 200...230 V 1~ ph 50/60 Hz | Standard | KBFP240-230V | 9020-0328 |
| | 200...240 V 1~ ph 50/60 Hz | Standard | KBFP240UL-240V | 9020-0329 |

TECHNICAL DATA

| Description | KBFP240-230V ¹ | KBFP240UL-240V ¹ |
|--|---------------------------|-----------------------------|
| Article Number | 9020-0328 | 9020-0329 |
| 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 [W] | 400 | 400 |
| Performance Data Climate | | |
| Temperature range with 100% illumination [°C] | 10...60 | 10...60 |
| Temperature range without illumination cassettes [°C] | 10...70 | 10...70 |
| Temperature variation with illumination at 25 °C and 60 % RH [± K] | 0.6 | 0.6 |
| Temperature variation with illumination at 40 °C and 75 % RH [± K] | 0.6 | 0.6 |
| 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] | 1.5 | 1.5 |
| Humidity fluctuation with illumination at 40 °C and 75 % RH [± % RH] | 2 | 2 |
| Humidity recovery time after 30 s door open at 25 °C and 60 % RH with illumination [min] | 4 | 4 |
| Humidity recovery time after 30 s door open at 40 °C and 75 % RH with illumination [min] | 6 | 6 |
| Lightdata per Illumination Cassettes | | |
| ICH compliant illumination for photo stability testing [lx] ^{*2} | 7500 | 7500 |
| ICH compliant illumination for photo stability testing [W/m ²] ^{*2} | 1.1 | 1.1 |
| Electrical data | | |
| Rated Voltage [V] | 200...230 | 200...240 |
| Power frequency [Hz] | 50/60 | 50/60 |
| Nominal power [kW] | 2.4 | 2.4 |
| Unit fuse [A] | 16 | 16 |
| Phase (Nominal voltage) | 1~ | 1~ |
| Outer dimensions | | |
| Width net [mm] | 925 | 925 |
| Height net [mm] | 1460 | 1460 |
| Depth net [mm] | 800 | 800 |
| Wall clearance back [mm] | 100 | 100 |
| Wall clearance sidewise [mm] | 100 | 100 |
| Doors | | |
| Inner doors | 1 | 1 |
| Unit doors | 1 | 1 |
| Internal Dimensions | | |
| Width [mm] | 650 | 650 |
| Height [mm] | 785 | 785 |
| Depth [mm] | 485 | 485 |

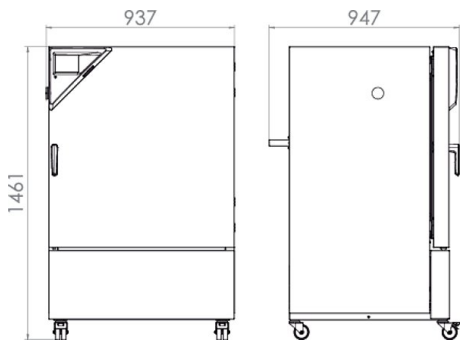
1 All technical data is specified for unloaded units with standard equipment at an ambient temperature of +22 °C ±3 °C and a power supply voltage fluctuation of ±10 %. The temperature data is determined in accordance to BINDER factory standard following DIN 12880, observing the recommended wall clearances 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.

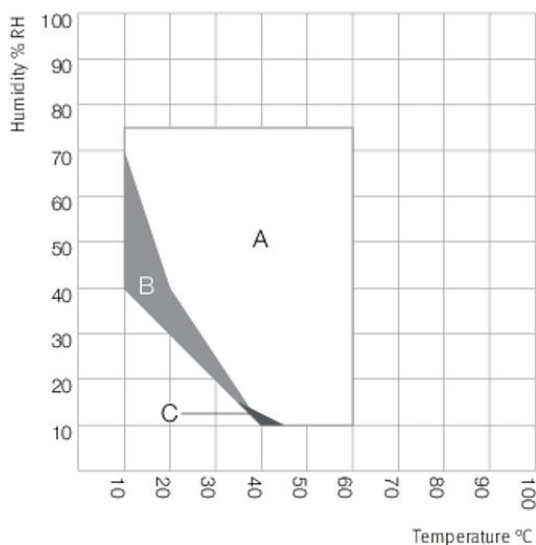
| Description | KBFP240-230V ¹ | KBFP240UL-240V ¹ |
|--|---------------------------|-----------------------------|
| Article Number | 9020-0328 | 9020-0329 |
| Measures | | |
| Interior volume [L] | 247 | 247 |
| Net weight of the unit (empty) [kg] | 213 | 213 |
| permitted load [kg] | 100 | 100 |
| Load per rack [kg] | 30 | 30 |
| Environment-specific data | | |
| Energy consumption at 40 °C and 75 % RH [Wh/h] | 760 | 760 |
| Sound-pressure level [dB(A)] | 53 | 53 |
| Fixtures | | |
| Number of shelves (std./max.) | 2/7 | 2/7 |
| Number of illumination cassettes (std./max.) | 2/2 | 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.

DIMENSIONS incl. fittings and connections [mm]



CHARTS



- A: Guaranteed condensation-free range
- B: Time-limited operation (max. 24 hours)
- C: Deviations of technical data may be possible

Climate chart

OPTIONS AND ACCESSORIES

| Designation | Description | * | Art.-No. |
|---|--|----|-----------|
| Access port with silicone plug | left | | |
| | 30 mm | 01 | 8012-1444 |
| | 50 mm | 01 | 8012-1474 |
| | 100 mm | 01 | 8012-1341 |
| | right | | |
| | 30 mm | 01 | 8012-1438 |
| | 50 mm | 01 | 8012-1468 |
| | 100 mm | 01 | 8012-1338 |
| | top | | |
| | 30 mm | 01 | 8012-1450 |
| | 50 mm | 01 | 8012-1456 |
| | 100 mm | 01 | 8012-1462 |
| 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 | - | 8012-1758 |
| Analog output 4-20 mA | for temperature and humidity values (output not adjustable) | - | 8012-1722 |
| APT-COM™ 4 BASIC-Edition | for simple logging and documentation requirements with up to 5 networked units. version 4, BASIC edition | 19 | 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 | 19 | 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 | 19 | 9053-0040 |
| BINDER PURE AQUA SERVICE | system for preparation or complete desalination of tap water, containing single-use cartridge, hoses and measuring device | - | 8012-0759 |
| BINDER PURE AQUA SERVICE, accessories | Single-use, replacement cartridge for BINDER PURE AQUA System | - | 6011-0165 |
| Calibration certificate, expanded | for temperature and humidity; for extending the measurement in center of chamber to include another test value | - | 8012-1190 |
| Calibration certificate, temperature | temperature measurement incl. certificate and 27 measuring points at specified temperature | - | 8012-1605 |
| | temperature measurement incl. certificate, 15- 18 measuring points at specified temperature | - | 8012-1585 |
| | temperature measurement incl. certificate, 9 measuring points at specified temperature | - | 8012-1564 |
| Calibration certificate, temperature and humidity | Measurement in center of chamber at 25 °C / 60% RH or at specified test values | - | 8012-1184 |
| | 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 | - | 8012-1611 |
| Class 3.3 independent temperature safety device | with visual alarm (DIN 12880) | - | 8012-1751 |
| Converter, voltage | to operate the device at a nominal voltage of 120 V 1 ph 60 Hz | | |
| | 240 V option model | - | 8009-0893 |
| 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 |
| | TH 70/70: For continuous temperature and humidity logging from -40 °C to 70 °C / 0% to 100% RH and additional logging of ambient conditions. Kit includes 1 data logger, 2 attachable combined humidity/temperature sensors, 2 m extension cable and 1 fixture for mounting to the BINDER unit | 19 | 8012-0717 |
| | TH 70: For continuous temperature and humidity logging from -40 °C to 70 °C; 0% to 100% RH. Kit includes 1 data logger, Pt 100 sensor with 2 m extension cable, and 1 magnetic fixture for mounting to the BINDER unit | 19 | 8012-0716 |
| 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 | - | 8012-1659 |

* Notes › See last page

| Designation | Description | * | Art.-No. |
|-------------------------------------|--|---|-----------|
| 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 |
| | RS 422 cable set and RS 422 / Ethernet interface converter for connection to 10-way plug distributor or for connection to a unit | | |
| Interface converter, USB / RS422 | 120 V, 60 Hz option model | - | 8012-0405 |
| | 230 V, 50/60 Hz option model | - | 8012-0380 |
| 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 |
| 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) | - | 8012-1546 |
| pH-neutral detergent | concentrated, for gentle remove of residual contaminants; 1 kg | - | 1002-0016 |
| Pt 100 temperature sensor | additional flexible Pt 100, interior, for displaying the temperature on the unit display | - | 8012-1747 |
| Rack | stainless steel | - | 6004-0101 |
| Rack accessories | fasteners (1 set of 4) for additional security of racks | - | 8012-0620 |
| Rack, reinforced | stainless steel, with fasteners (1 set of 4) | - | 8012-0638 |
| 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 |
| 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 |
| RS 485 interface, 2-wire | Additional serial interface can be used parallel to Ethernet, for Multi Management Software APT-COM™ | - | 8012-1743 |
| Shelf, perforated | Stainless steel | - | 6004-0040 |
| Water supply set | consisting of fresh- and waste-water containers (20 liters each), cabling and pump | | |
| | external, free-standing | - | 8012-1846 |
| | external, consisting of fresh- and waste-water containers (20 liters each), cabling and pump | | |
| | external, for hanging from the back of the device | - | 8012-0643 |

* 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 | DL10-0300 |
| Instruction | unit function instructions for operation and programming of the controller | 18 | DL10-0700 |
| Preventive maintenance | | | |
| Preventive maintenance | Executive of equipment inspection according to maintenance plan | 14, 18 | DL20-0400 |
| Calibration services | | | |
| Calibration temperature and humidity | including certificate, one measuring point in center of chamber at 25 °C / 60 % RH or at specified values | 14, 16, 17, 18 | DL30-0301 |
| 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) | 14, 16, 17, 18 | DL30-0525 |
| Temperature and humidity measurement according to DIN12880 | including certificate (27 temperature measuring points and one humidity measuring point, at 25 °C / 60 % RH or at specified values) | 14, 16, 17, 18 | DL30-0427 |
| Temperature measurement 18 temperature measuring points and 1 humidity measuring point | including certificate, 18 temperature measuring points and 1 humidity measuring point in center of chamber, at 25 °C / 60 % RH or at specified values | 14, 16, 17, 18 | DL30-0318 |
| Temperature measurement 27 temperature measuring points and 1 humidity measuring point | including certificate, 27 temperature measuring points and 1 humidity measuring point in center of chamber, at 25 °C / 60 % RH or at specified values | 14, 16, 17, 18 | DL30-0327 |

* Notes › See last page

| Designation | Description | * | Art.-No. |
|---|---|-------------------|-----------|
| Temperature measurement 9 temperature measuring points and 1 humidity measuring point | including certificate, 9 temperature measuring points and 1 humidity measuring point in center of chamber, at 25 °C / 60 % RH or at specified values | 14, 16, 17, 18 | DL30-0309 |
| Validation services | | | |
| Execution of IQ/OQ incl. light measurement | including light measurement, in accordance with qualification folder | 15, 18, 20 | DL43-0400 |
| 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 | 8012-0868 |
| 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 | 8012-0956 |
| Warranty service | | | |
| Extension of the warranty from 2 to 3 years | beginning with the date of delivery, wearing parts are not included | - | DL01-5041 |
| Extension of the warranty from 2 to 5 years | beginning with the date of delivery, wearing parts are not included | - | DL01-5042 |

* 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 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 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.

BINDER GmbH
Tuttlingen, Germany
TEL +49 7462 2005 0
FAX +49 7462 2005 100
info@binder-world.com
www.binder-world.com

BINDER Asia Pacific (Hong Kong) Ltd.
Kowloon, Hong Kong, P.R. China
TEL +852 39070500
FAX +852 39070507
asia@binder-world.com
www.binder-world.com

Representative Office for CIS
Moscow, Russia
TEL +7 495 988 15 16
FAX +7 495 988 15 17
russia@binder-world.com
www.binder-world.ru

BINDER Environmental Testing
Equipment (Shanghai) Co., Ltd.
Shanghai, P.R. China
TEL +86 21 685 808 25
FAX +86 21 685 808 29
china@binder-world.com
www.binder-world.com

BINDER Inc.
Bohemia, NY, USA
TEL +1 631 224 4340
FAX +1 631 224 4354
usa@binder-world.com
www.binder-world.us