

Model KBF 1020 | Constant climate chambers with large temperature / humidity range

The BINDER KBF is the specialist for unconditionally reliable stability testing and precise maintenance of constant climate conditions. From programming to documentation, this constant climate chamber meets all critical requirements.

BENEFITS

- Safe thanks to climatic homogeneity that far exceeds the accuracy required by ICH guidelines, even with a fully loaded unit.
- 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 1020



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IMPORTANT FEATURES

- Temperature range: 0 °C to +70 °C
- Humidity range: 10 % to 80 % RH
- APT.line™ preheating chamber technology
- Humidity regulation with capacitive humidity sensor and vapor humidification
- Intuitive touchscreen controller with time-segment and real-time programming
- BINDER Multi Management Software APT-COM™ Basic Edition
- 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
- Inner chamber made of stainless steel
- 2 stainless steel racks
- Access port with silicone plug, 30 mm, left
- 4 stable castors, two with brakes, from 240 liters
- 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] | Power supply - unit fuse | Plug* | Version | Model version | Art.-No. |
|-----------------------|---------------------------------|-----------|----------|---------------|-----------|
| Model KBF 1020 | | | | | |
| 1,020 | 200...230 V 1~ 50/60 Hz -16,0 A | CEE 7/7 | Standard | KBF1020-230V | 9020-0326 |
| | 200...240 V 1~ 50/60 Hz -16,0 A | NEMA 6-20 | Standard | KBF1020-240V | 9020-0327 |

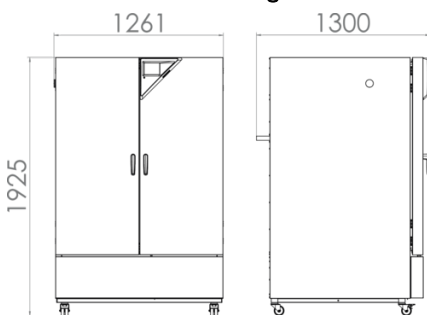
TECHNICAL DATA

| Data | | |
|---|--------------|--------------|
| Designation | KBF1020-230V | KBF1020-240V |
| Article Number | 9020-0326 | 9020-0327 |
| Option model | Standard | Standard |
| Performance Data Temperature | | |
| Max. heat compensation at 40°C | 600 W | 600 W |
| Performance Data Climate | | |
| Temperature range with humidity | 10...70 °C | 10...70 °C |
| Humidity range | 10...80 % RH | 10...80 % RH |
| Temperature uniformity at 25°C and 60% RH | 0.2 ± K | 0.2 ± K |
| Temperature uniformity at 40°C and 75% RH | 0.2 ± K | 0.2 ± K |
| Temperature fluctuation at 25°C and 60% RH | 0.1 ± K | 0.1 ± K |
| Temperature fluctuation at 40°C and 75% RH | 0.1 ± K | 0.1 ± K |
| Recovery time after door was opened for 30 s at 25°C and 60% RH | 11 min | 11 min |
| Recovery time after door was opened for 30 s at 40°C and 75% RH | 12 min | 12 min |
| Electrical data | | |
| Rated Voltage | 200...230 V | 200...240 V |
| Power frequency | 50/60 Hz | 50/60 Hz |
| Nominal power | 3,1 kW | 3,1 kW |
| Unit fuse | 16,0 A | 16,0 A |
| Phase (Nominal voltage) | 1~ | 1~ |
| Measures | | |
| Interior volume | 1,020 L | 1,020 L |
| Net weight of the unit (empty) | 379 kg | 379 kg |
| Load per rack | 45 kg | 45 kg |
| Permitted load | 150 kg | 150 kg |
| Wall clearance back | 100 mm | 100 mm |
| Wall clearance sidewise | 100 mm | 100 mm |
| Housing dimensions not incl. fittings and connections | | |

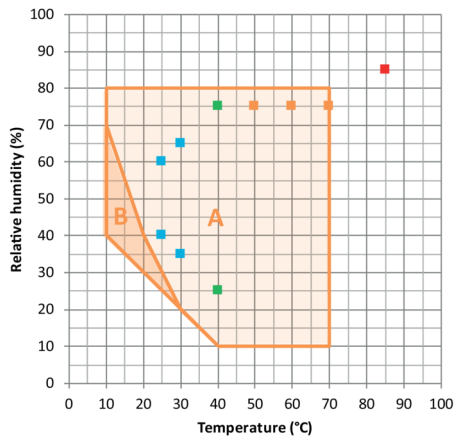
| | | |
|---------------------------------------|----------|----------|
| Width net | 1,250 mm | 1,250 mm |
| Height net | 1,925 mm | 1,925 mm |
| Depth net | 1,145 mm | 1,145 mm |
| Internal Dimensions | | |
| Interior width | 973 mm | 973 mm |
| Interior height | 1,250 mm | 1,250 mm |
| Interior depth | 836 mm | 836 mm |
| Inner doors | 2 | 2 |
| Unit doors | 2 | 2 |
| Environment-specific data | | |
| Sound-pressure level | 56 dB(A) | 56 dB(A) |
| Energy consumption at 40°C and 75% RH | 650 Wh/h | 650 Wh/h |
| Fixtures | | |
| Number of shelves (std./max.) | 2/15 | 2/15 |

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]



DIAGRAMS



- ICH Long term stability testing
 - Accelerated stability testing
 - ICH Stress testing
 - Industrial THB testing (85/85)
- A: Guaranteed condensation-free range
 B: Time-limited operation (max. 24 hours)

Temperature-humidity chart with ICH checkpoints

OPTIONS

| Designation | Description | KBF 1020 | * | Art.-No. |
|--------------------------------|---|----------|----|-----------|
| | left | | | |
| | 30 mm | • | 01 | 8012-1442 |
| | 50 mm | • | 01 | 8012-1472 |
| | 100 mm | • | 01 | 8012-0515 |
| | right | | | |
| | 30 mm | • | 01 | 8012-1436 |
| Access port with silicone plug | 50 mm | • | 01 | 8012-1466 |
| | 100 mm | • | 01 | 8012-0514 |
| | top | | | |
| | 30 mm | • | 01 | 8012-1448 |
| | 50 mm | • | 01 | 8012-1454 |
| | 100 mm | • | 01 | 8012-1460 |
| 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 | • | - | 8012-1810 |
| Analog output 4-20 mA | for temperature and humidity values (output not adjustable) | • | - | 8012-1811 |

| Designation | Description | KBF 1020 | * | Art.-No. |
|---|---|----------|---|-----------|
| Calibration certificate, expanded | for temperature and humidity; for extending the measurement in center of chamber to include another test value | • | - | 8012-0155 |
| Calibration certificate, temperature | temperature measurement incl. certificate, 9 measuring points at specified temperature | • | - | 8012-0917 |
| | temperature measurement incl. certificate, 15- 18 measuring points at specified temperature | • | - | 8012-0920 |
| | temperature measurement incl. certificate and 27 measuring points at specified temperature | • | - | 8012-0923 |
| Calibration certificate, temperature and humidity | Measurement in center of chamber at 25°C / 60% RH or at specified test values | • | - | 8012-0154 |
| | 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 | • | - | 8012-0924 |
| Class 3.3 independent temperature safety device | with visual alarm (DIN 12880) | • | - | 8012-1034 |
| Door lock | lockable door handle | • | - | 8012-1024 |
| Pt 100 temperature sensor | additional flexible Pt 100, interior, for displaying the temperature on the unit display | • | - | 8012-1042 |
| RS 485 interface, 2-wire | Additional serial interface can be used parallel to Ethernet, for Multi Management Software APT-COM™ | • | - | 8012-1066 |

ACCESSORIES

| Designation | Description | KBF 1020 | * | 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 |
| Converter, voltage | to operate the device at a nominal voltage of 120 V 1 ph 60 Hz | | | |
| | 240 V option model | • | - | 8009-0821 |
| LED light bars | Basic set consisting of 2 pieces, attachment material, control unit for max. 4 light strips, 100-240 V, 50/60 Hz | | | |

| Designation | Description | KBF 1020 | * | Art.-No. |
|-------------------------------------|--|----------|---|-----------|
| | Basic set 300, length 30 cm | • | - | 8012-1107 |
| | Basic set 500, length 50 cm | • | - | 8012-1108 |
| | Basic set 900, length 90 cm | • | - | 8012-1109 |
| | 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 |
| | 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 and humidity values | | | |
| Qualification documents | Digital in PDF format | • | - | 7057-0006 |
| | Hard copy inside folder | • | - | 7007-0006 |
| | IQ/OQ documents – supporting documents for validation performed by customers, consisting of: IQ/OQ checklists incl. calibration guide and comprehensive unit documentation; parameters: temperature and humidity values | | | |
| | Digital in PDF format | • | - | 7057-0002 |
| | Hard copy inside folder | • | - | 7007-0002 |
| 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 |
| Rack | stainless steel | • | - | 8012-2052 |
| Rack, reinforced | stainless steel, with fasteners (1 set of 4) | • | - | 8012-0968 |
| Rack accessories | fasteners (1 set of 4) for additional security of racks | • | - | 8012-2280 |
| Shelf, perforated | Stainless steel | • | - | 8012-2254 |
| 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. | • | - | 8012-2262 |
| | consisting of fresh- and waste-water containers (20 liters each), cabling and pump | | | |
| Water supply set | external, for hanging from the back of the device | • | - | 8012-0643 |
| | external, free-standing | • | - | 8012-1846 |

| Designation | Description | KBF 1020 | * | Art.-No. |
|----------------------|--|----------|---|-----------|
| pH-neutral detergent | concentrated, for gentle remove of residual contaminants; 1 kg | • | - | 8012-2250 |

SERVICES

| Designation | Description | * | Art.-No. |
|---|--|---|-----------|
| Calibration services | | | |
| 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 | – | DL30-0302 |
| | Temperature and humidity calibration with 1 measuring point in center of chamber with 1 specified pair of values, including certificate | – | DL30-0301 |
| 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 | – | DL30-0309 |
| 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 | – | DL30-0318 |
| 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 | – | DL30-0327 |
| 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 | – | DL30-0427 |
| 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) | – | DL10-0300 |
| Unit instructions | Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming | – | DL10-0700 |
| Maintenance contracts | | | |
| 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 | – | 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 value, including certificate | – | DL20-0920 |
| 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 | – | DL20-0820 |
| Maintenance services | | | |
| 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 | – | DL20-0400 |
| Validation services | | | |
| Execution of IQ/OQ | Execution of IQ/OQ in accordance with qualification folder | – | DL42-0300 |

| Designation | Description | * | Art.-No. |
|---------------------------|--|---|-----------|
| Execution of IQ/OQ/PQ | Execution of IQ/OQ/PQ in accordance with qualification folder | – | 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

01 Condensation may occur in the area around the access port. Access ports may be placed in custom locations for an additional charge.

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