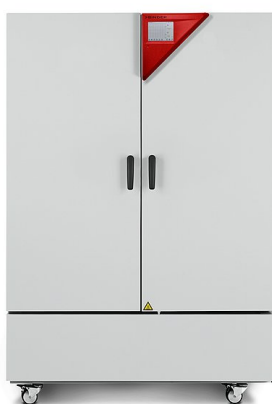


Model KMF 720 | Constant climate chambers with expanded temperature / humidity range

The BINDER KMF ensures absolutely constant test conditions throughout the testing area. A big advantage of this constant climate chamber is its low space requirement and flexibility in terms of water supply. The wide temperature and humidity range make this constant climate chamber ideally suited for stress testing series.

BENEFITS

- Homogeneous climate conditions thanks to APT.line™ technology
- Automatic water and wastewater management
- Humidification with fast response times
- Wide humidity range up to 98 % RH
- Long-term stress testing, e.g. at 85 °C / 85 % RH



Model 720

MAIN FEATURES

- Temperature range: -10 °C to 100 °C
- Humidity range: 10 % RH to 98 % RH
- 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)
- Avoidance of glass corrosion by special TIMELESS coating
- 1 stainless steel rack
- Access port with silicone plug, 30 mm, left
- Class 3.1 independent temperature safety device (DIN 12880) with visual and audible temperature alarm
- Computer interface: Ethernet
- Door heating

ORDERING INFORMATION

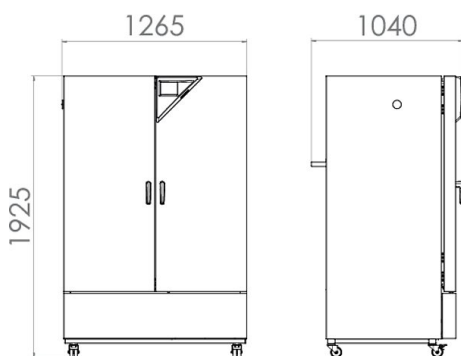
| Interior volume [L] | Voltage | Option model | Version | Art.-No. |
|---------------------|----------------------------|--------------|-------------|-----------|
| 700 | 200...230 V 1~ ph 50/60 Hz | Standard | KMF720-230V | 9020-0345 |
| | 200...240 V 1~ ph 50/60 Hz | Standard | KMF720-240V | 9020-0346 |

TECHNICAL DATA

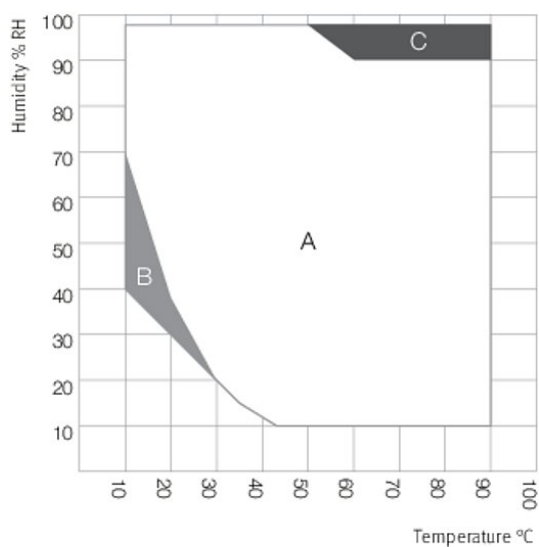
| Description | KMF720-230V ¹ | KMF720-240V ¹ |
|--|--------------------------|--------------------------|
| Article Number | 9020-0345 | 9020-0346 |
| Performance Data Temperature | | |
| Temperature range | -10...100 | -10...100 |
| Average heating-up rate according to IEC 60068-3-5 [K/min] | 0.7 | 0.7 |
| Average cooling down time according to IEC 60068-3-5 [K/min] | 0.4 | 0.4 |
| Max. heat compensation at 25 °C [W] | 450 | 450 |
| Performance Data Climate | | |
| Temperature range [°C] | 10...90 | 10...90 |
| Temperature variation depending on setpoint [± K] | 0.1...1 | 0.1...1 |
| Temperature fluctuation depending on setpoint [± K] | 0.1...0.5 | 0.1...0.5 |
| Humidity range [% RH] | 10...98 | 10...98 |
| Humidity fluctuation depending on setpoint | ≤2 ± % RH | ≤2 ± % RH |
| Dew point temperature range [°C] | 5...90 | 5...90 |
| Electrical data | | |
| Rated Voltage [V] | 200...230 | 200...240 |
| Power frequency [Hz] | 50/60 | 50/60 |
| Nominal power [kW] | 3.1 | 3.1 |
| Unit fuse [A] | 16 | 16 |
| Phase (Nominal voltage) | 1~ | 1~ |
| Measures | | |
| Interior volume [L] | 700 | 700 |
| Net weight of the unit (empty) [kg] | 306 | 306 |
| 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 | | |
| Width [mm] | 973 | 973 |
| Height [mm] | 1250 | 1250 |
| 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] | 890 | 890 |
| Environment-specific data | | |
| Energy consumption at 85 °C and 85 % RH [Wh/h] | 900 | 900 |
| Sound-pressure level [dB(A)] | 56 | 56 |
| Fixtures | | |
| Number of shelves (std./max.) | 1/15 | 1/15 |

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.

DIMENSIONS incl. fittings and connections [mm]



CHARTS



A: Guaranteed condensation-free range
 B: Time-limited operation (max. 24 hours)
 C: Condensation in the inner chamber may be possible

Climate chart

OPTIONS

| Designation | Description | * | Art.-No. |
|--------------------------------|---|----|-----------|
| Access port with silicone plug | left | | |
| | 30 mm | 01 | 8012-1446 |
| | 50 mm | 01 | 8012-1476 |
| | 100 mm | 01 | 8012-1342 |
| | right | | |
| | 30 mm | 01 | 8012-1440 |
| | 50 mm | 01 | 8012-1470 |
| | 100 mm | 01 | 8012-1339 |
| | top | | |
| | 30 mm | 01 | 8012-1452 |
| | 50 mm | 01 | 8012-1458 |
| | 100 mm | 01 | 8012-1464 |
| 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 | – | 8012-1678 |
| Analog output 4-20 mA | for temperature and humidity values (output not adjustable) | – | 8012-1681 |

* Notes > See last page

| Designation | Description | * | Art.-No. |
|---|---|---|-----------|
| Calibration certificate, expanded | for temperature and humidity; for extending the measurement in center of chamber to include another test value | – | 8012-1191 |
| Calibration certificate, temperature | temperature measurement incl. certificate and 27 measuring points at specified temperature | – | 8012-1606 |
| | temperature measurement incl. certificate, 15- 18 measuring points at specified temperature | – | 8012-1586 |
| | temperature measurement incl. certificate, 9 measuring points at specified temperature | – | 8012-1565 |
| Calibration certificate, temperature and humidity | Measurement in center of chamber at 25 °C / 60% RH or at specified test values | – | 8012-1185 |
| | 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 | – | 8012-1612 |
| Class 3.3 independent temperature safety device | with visual alarm (DIN 12880) | – | 8012-1675 |
| Door lock | lockable door handle | – | 8012-1727 |
| Inner chamber, reinforced | including 2 reinforced racks | – | 8012-0675 |
| Pt 100 temperature sensor | additional flexible Pt 100, interior, for displaying the temperature on the unit display | – | 8012-1682 |
| RS 485 interface, 2-wire | Additional serial interface can be used parallel to Ethernet, for Multi Management Software APT-COM™ | – | 8012-1712 |
| Shelf, reinforced | positioned at bottom level, max. load 67 kg, with additional attachment for operation of shaking device, stirring device or roller bottle system | – | 8012-1493 |

* Notes › See last page

ACCESSORIES

| Designation | Description | * | Art.-No. |
|---------------------------------------|--|----|-----------|
| 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, 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 |
| 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 100/70: For continuous temperature and humidity logging from -40 °C to 100 °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 | 8012-1838 |
| | TH 100: For continuous temperature and humidity logging from -50 °C to 100 °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 | 8012-1837 |
| Data Logger Software | LOG ANALYZE software kit, configuration and evaluation software for all BINDER Data Logger Kits (incl. USB data cable) | 19 | 8012-0821 |
| LED light bars | Basic set consisting of 2 pieces, attachment material, control unit for max. 4 light strips, 100-240 V, 50/60 Hz | | |
| | 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 |
| 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 and humidity values | | |
| | Digital in PDF format | – | 7057-0002 |
| | Hard copy inside folder | – | 7007-0002 |
| | 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 | | |
| | Digital in PDF format | – | 7057-0006 |
| | Hard copy inside folder | – | 7007-0006 |
| Rack | stainless steel | – | 6004-0106 |
| 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 |

* Notes › See last page

SERVICES

| Designation | Description | * | Art.-No. |
|--|--|----------------|-----------|
| Installation services | | | |
| Unit installation | Unpacking and setting up of unit, connecting to existing connections, and checking function | 13, 18 | DL10-0300 |
| Unit instructions | Unit function instructions for operation and programming of the controller | 18 | DL10-0700 |
| Preventive maintenance | | | |
| Maintenance | Functional testing of all electrical and mechanical components, short calibration, documentation in the maintenance schedule | 14, 18 | DL20-0400 |
| Calibration services | | | |
| Temperature and humidity calibration | Expansion – including certificate, each additional measuring point in center of chamber at 25 °C / 60% RH or at specified values | 14, 16, 17, 18 | DL30-0302 |
| | Temperature and humidity calibration with 1 measuring point in center of chamber with 1 specified pair of values, including certificate | 14, 16, 17, 18 | DL30-0301 |
| Temperature measurement in accordance with DIN 12880, 27 temperature measuring points and 1 humidity measuring point | Temperature measurement in accordance with DIN 12880 with 27 temperature measuring points and 1 humidity measuring point in center of chamber at specified values, including certificate | 14, 16, 17, 18 | DL30-0427 |
| Temperature measurement, 15 measuring points | Temperature measurement with 15 measuring points at a specified test temperature, including certificate | 14, 16, 17, 18 | DL30-0218 |
| Temperature measurement, 18 temperature measuring points and 1 humidity measuring point | Temperature measurement with 18 temperature measuring points and 1 humidity measuring point in center of chamber with 1 specified pair of values, including certificate | 14, 16, 17, 18 | DL30-0318 |
| Temperature measurement, 27 temperature measuring points and 1 humidity measuring point | Temperature measurement with 27 temperature measuring points and 1 humidity measuring point in center of chamber with 1 specified pair of values, including certificate | 14, 16, 17, 18 | DL30-0327 |
| Temperature measurement, 9 temperature measuring points and 1 humidity measuring point | Temperature measurement with 9 temperature measuring points and 1 humidity measuring point in center of chamber at specified values, including certificate | 14, 16, 17, 18 | DL30-0309 |
| Validation services | | | |
| Execution of IQ/OQ | Execution of IQ/OQ in accordance with qualification folder | 15, 18 | DL42-0300 |
| Execution of IQ/OQ/PQ | Execution of IQ/OQ/PQ in accordance with qualification folder | 15, 18 | DL44-0500 |
| Warranty service | | | |
| Warranty extension from 2 to 3 years | The warranty is extended from 2 to 3 years from the delivery date, wear parts are excluded | – | DL02-4041 |
| Warranty extension from 2 to 5 years | The warranty is extended from 2 to 5 years from the delivery date, wear parts are excluded | – | DL02-4042 |

* 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.
- 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.

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