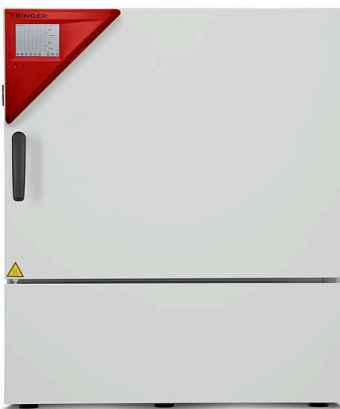


Model KMF 115 | Constant climate chambers with expanded temperature / humidity range

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

- Safe thanks to climatic homogeneity that far exceeds the accuracy required by ICH guidelines as well as THB (85/85), 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 115



Model 240

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

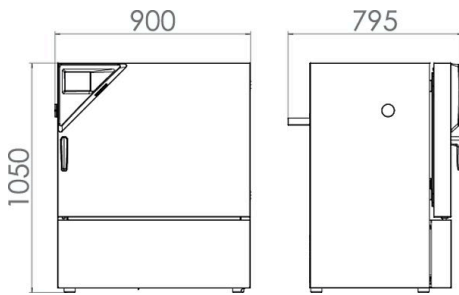
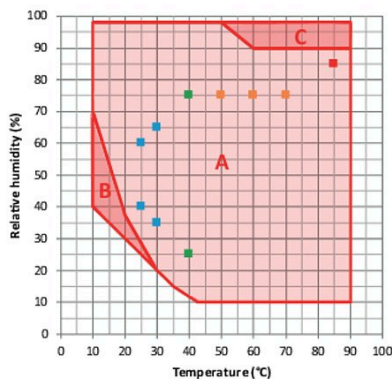
ORDERING INFORMATION

| Interior volume [L] | Voltage | Option model | Version | Art.-No. |
|---------------------|----------------------------|--------------|-------------|-----------|
| 102 | 200...230 V 1~ ph 50/60 Hz | Standard | KMF115-230V | 9020-0341 |
| | 200...240 V 1~ ph 50/60 Hz | Standard | KMF115-240V | 9020-0342 |

TECHNICAL DATA

| Description | KMF115-230V ¹ | KMF115-240V ¹ |
|--------------------------------------------------------------|--------------------------|--------------------------|
| Article Number | 9020-0341 | 9020-0342 |
| Performance Data Temperature | | |
| Temperature range | -10...100 | -10...100 |
| Average heating-up rate according to IEC 60068-3-5 [K/min] | 1.3 | 1.3 |
| Average cooling down time according to IEC 60068-3-5 [K/min] | 0.5 | 0.5 |
| Max. heat compensation at 25 °C [W] | 150 | 150 |
| Performance Data Climate | | |
| Temperature range [°C] | 10...90 | 10...90 |
| Temperature variation depending on setpoint [± K] | 0.2...1 | 0.2...1 |
| Temperature fluctuation depending on setpoint [± K] | 0.1...0.3 | 0.1...0.3 |
| Humidity range | 10...98 | 10...98 |
| Humidity fluctuation depending on setpoint | ≤2,5 ± % RH | ≤2,5 ± % 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] | 2 | 2 |
| Unit fuse [A] | 16 | 16 |
| Phase (Nominal voltage) | 1~ | 1~ |
| Measures | | |
| Interior volume [L] | 102 | 102 |
| Net weight of the unit (empty) [kg] | 128 | 128 |
| Permitted load [kg] | 100 | 100 |
| Load per rack [kg] | 30 | 30 |
| Wall clearance back [mm] | 100 | 100 |
| Wall clearance sidewise [mm] | 100 | 100 |
| Internal Dimensions | | |
| Width [mm] | 600 | 600 |
| Height [mm] | 483 | 483 |
| Depth [mm] | 351 | 351 |
| Doors | | |
| Inner doors | 1 | 1 |
| Unit doors | 1 | 1 |
| Housing dimensions not incl. fittings and connections | | |
| Width net [mm] | 880 | 880 |
| Height net [mm] | 1050 | 1050 |
| Depth net [mm] | 650 | 650 |
| Environment-specific data | | |
| Energy consumption at 85 °C and 85 % RH [Wh/h] | 570 | 570 |
| Sound-pressure level [dB(A)] | 52 | 52 |
| Fixtures | | |
| Number of shelves (std./max.) | 1/5 | 1/5 |

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 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


- 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)
- C: Condensation in the inner chamber may be possible

Climate chart

OPTIONS

| Designation | Description | * | Art.-No. |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----------|
| | left | | |
| | 30 mm | 01 | 8012-1446 |
| | 50 mm | 01 | 8012-1476 |
| | 100 mm | 01 | 8012-1342 |
| | right | | |
| Access port with silicone plug | 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 | - | 8012-1676 |
| Analog output 4-20 mA | for temperature and humidity values (output not adjustable) | - | 8012-1679 |
| Calibration certificate, expanded | for temperature and humidity; for extending the measurement in center of chamber to include another test value | - | 8012-1191 |
| | temperature measurement incl. certificate and 27 measuring points at specified temperature | - | 8012-1606 |
| Calibration certificate, temperature | 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 |

* Notes › See last page

| Designation | Description | * | Art.-No. |
|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|-----------|
| 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) | - | 8012-1673 |
| Door lock | lockable door handle | - | 8012-1660 |
| 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 |

* 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 | - | 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 |
| 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 |
| | 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 |
| pH-neutral detergent | concentrated, for gentle remove of residual contaminants; 1 kg | - | 1002-0016 |
| 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 | - | 8012-2049 |
| Rack accessories | fasteners (1 set of 4) for additional security of racks | - | 8012-0620 |
| Rack, reinforced | stainless steel, with fasteners (1 set of 4) | - | 8012-0700 |
| 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 | - | 6004-0115 |
| 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 value, including certificate | 05 | DL20-0920 |
| 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 | | | |
| 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 |
| 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 | Execution of IQ/OQ in accordance with qualification folder | 05 | DL42-0300 |
| 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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