

Model MK 56 | Dynamic climate chambers for rapid temperature changes

The BINDER MK series chamber is suitable for all heat and cold tests between -40 °C and 180 °C. The MK is a clever alternative to complex individual solutions for cyclical temperature tests.

BENEFITS

- Homogeneous climate conditions thanks to APT.line™ technology
- Comprehensive programming and data acquisition
- Large heated viewing window



Model 56



Model 56

MAIN FEATURES

- Temperature range: -40 °C to 180 °C
 - APT.line™ preheating chamber technology
 - Programmable condensation protection for test material
 - Heated viewing window with LED interior lighting
 - BINDER Multi Management Software APT-COM™ Basic Edition
 - Troubleshooting system with visual and audible alarms
 - 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
 - Access port with silicone plug, 50 mm, left
 - Class 2 independent adjustable temperature safety device (DIN 12880) with visual alarm
- 4 castors, two with brakes
 - Computer interface: Ethernet
 - Adjustable ramp function
 - Integrated chart recorder
 - Real-time clock
 - 1 stainless steel rack
 - Inner chamber made of stainless steel
 - CFC-free refrigerant R-452A
 - Cooling with compressor cooling unit

ORDERING INFORMATION

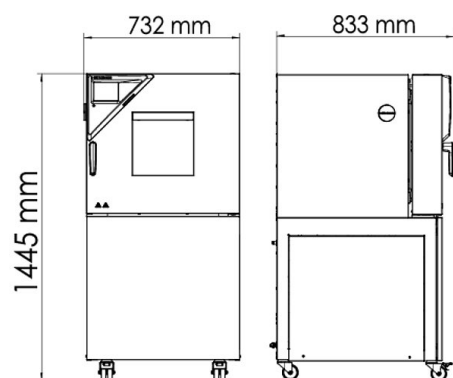
| Interior volume [L] | Voltage | Option model | Version | Art.-No. |
|---------------------|-------------------|--------------|------------|-----------|
| Model MK 56 | | | | |
| 60 | 230 V 1~ ph 50 Hz | Standard | MK056-230V | 9020-0374 |
| | 240 V 1~ ph 60 Hz | Standard | MK056-240V | 9020-0388 |

TECHNICAL DATA

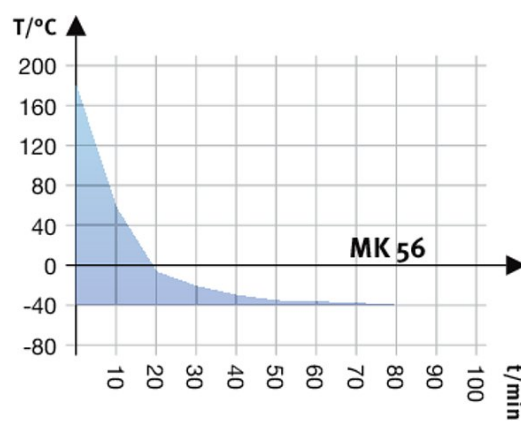
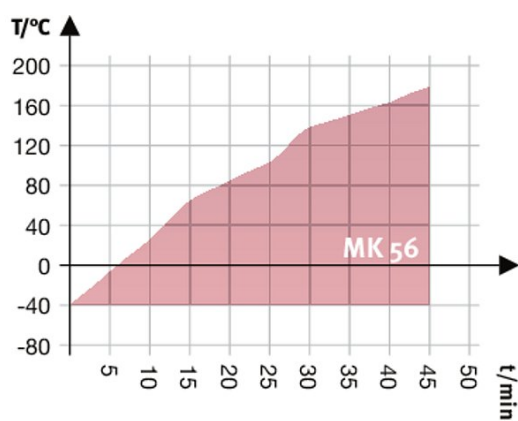
| Description | MK056-230V ¹ | MK056-240V ¹ |
|--|-------------------------|-------------------------|
| Article Number | 9020-0374 | 9020-0388 |
| Performance Data Temperature | | |
| Temperature range [°C] | -40...180 | -40...180 |
| Temperature variation depending on setpoint [± K] | 0.5...1.5 | 0.5...1.5 |
| Temperature fluctuation depending on setpoint [± K] | 0.1...0.5 | 0.1...0.5 |
| Average heating-up rate according to IEC 60068-3-5 [K/min] | 5 | 5 |
| Cooling down time from 180 °C to -40 °C [min] | 90 | 90 |
| Average cooling down time according to IEC 60068-3-5 [K/min] | 5 | 5 |
| Max. heat compensation at 25 °C [W] | 800 | 800 |
| Electrical data | | |
| Rated Voltage [V] | 230 | 240 |
| Power frequency [Hz] | 50 | 60 |
| Nominal power [kW] | 2.8 | 2.8 |
| Unit fuse [A] | 16 | 16 |
| Phase (Nominal voltage) | 1~ | 1~ |
| Internal Dimensions | | |
| Depth [mm] | 350 | 350 |
| Height [mm] | 420 | 420 |
| Width [mm] | 400 | 400 |
| Housing dimensions not incl. fittings and connections | | |
| Width net [mm] | 720 | 720 |
| Height net [mm] | 1445 | 1445 |
| Depth net [mm] | 778 | 778 |
| Measures | | |
| Viewing window width [mm] | 288 | 288 |
| Viewing window height [mm] | 255 | 255 |
| Wall clearance back [mm] | 300 | 300 |
| Wall clearance sidewise [mm] | 200 | 200 |
| Interior volume [L] | 60 | 60 |
| Net weight of the unit (empty) [kg] | 168 | 168 |
| permitted load [kg] | 60 | 60 |
| Load per rack [kg] | 15 | 15 |
| Doors | | |
| Unit doors | 1 | 1 |
| Environment-specific data | | |
| Sound-pressure level [dB(A)] | 59 | 59 |
| Fixtures | | |
| Number of shelves (std./max.) | 1/4 | 1/4 |

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.

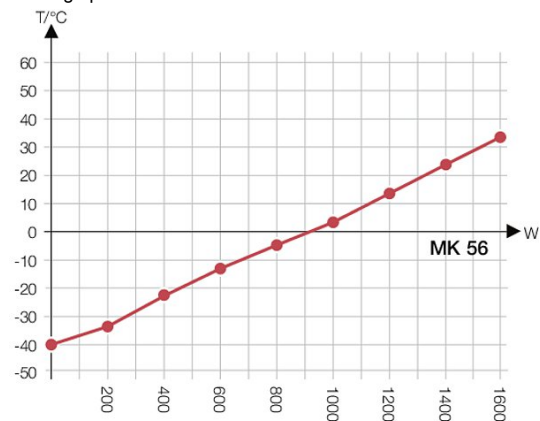
DIMENSIONS incl. fittings and connections [mm]



CHARTS



Heating up rate



Cooling down rate

Heat compensation chart

OPTIONS AND ACCESSORIES

| Designation | Description | * | Art.-No. |
|--------------------------------------|--|----|-----------|
| Access port with silicone plug | left | | |
| | 30 mm | 01 | 8012-1322 |
| | 50 mm | 01 | 8012-1328 |
| | 80 mm | 01 | 8012-1334 |
| | right | | |
| | 30 mm | 01 | 8012-1319 |
| | 50 mm | 01 | 8012-1325 |
| | 80 mm | 01 | 8012-1331 |
| | top | | |
| | 80 mm | 01 | 8012-1536 |
| Analog output 4-20 mA | for temperature values (output not adjustable) | – | 8012-1084 |
| 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 |
| Calibration certificate, expanded | for temperature; for extending the measurement in center of chamber to include another test temperature | – | 8012-1124 |
| Calibration certificate, temperature | for temperature, measurement in center of chamber at specified temperature | – | 8012-1143 |
| | temperature measurement incl. certificate and 27 measuring points at specified temperature | – | 8012-1602 |
| | temperature measurement incl. certificate, 15- 18 measuring points at specified temperature | – | 8012-1581 |
| | temperature measurement incl. certificate, 9 measuring points at specified temperature | – | 8012-1560 |
| 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 |
| 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 | – | 8012-1782 |
| Dry-air purge | uncontrolled, incl. connection; for preventing condensation | – | 8012-1806 |
| Dry-air purge, connection | for the connection to an existing pressurized air network | – | 8012-1795 |
| 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 | – | 8012-1093 |
| Rack | stainless steel | – | 6004-0150 |
| Rack accessories | fasteners (1 set of 4) for additional security of racks | – | 8012-0620 |
| Rack, reinforced | stainless steel, with fasteners (1 set of 4) | – | 8012-1091 |
| 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™ | – | 8012-1768 |
| Shelf, perforated | Stainless steel | – | 6004-0182 |
| Temperature safety device class 2 | with visual alarm (DIN 12880) | – | 8012-1792 |
| Water cooling | for reduced heat loss to ambient air | – | 8012-1815 |
| Zero voltage relay contacts | for controlling 3 relay contacts via program regulators, accessible via 6-pin DIN socket (max. 24 V - 2.5 A) | – | 8012-1095 |

* 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 | DL20-0500 |
| Calibration services | | | |
| Calibration temperature incl. certificate | including certificate, one measuring point in center of chamber at specified temperature | 14, 16, 17, 18 | DL30-0101 |
| Temperature measurement 18 measuring points | including certificate, 18 measuring points at specified temperature | 14, 16, 17, 18 | DL30-0118 |
| Temperature measurement 27 measuring points | including certificate, 27 measuring points at specified temperature | 14, 16, 17, 18 | DL30-0127 |
| Temperature measurement 9 measuring points | including certificate, 9 measuring points at specified temperature | 14, 16, 17, 18 | DL30-0109 |
| Validation services | | | |
| Execution of IQ/OQ | in accordance with qualification folder | 15, 18, 20 | DL41-0200 |
| 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 | 8012-0863 |
| 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 | 8012-0951 |
| Warranty service | | | |
| Extension of the warranty from 2 to 3 years | beginning with the date of delivery, wearing parts are not included | – | DL01-1041 |
| Extension of the warranty from 2 to 5 years | beginning with the date of delivery, wearing parts are not included | – | DL01-1042 |

* Notes › See last page



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Pricing on any accessories shown can be found by keying the part number into the search box on our website.

The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct. If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

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