

Model FP 720 | Drying and heating chambers with forced convection and program functions

A BINDER material test chamber with mechanical convection of the FP series provides reliably short drying times and particularly fast heating – even for chambers under full loads.

BENEFITS

- Uniform drying conditions thanks to APT.line™ technology
- Identical test conditions throughout the chamber interior independent of sample size and quantity
- Outstanding thermal insulation saves operation costs
- Advanced programming options



Model 720



Model 720

MAIN FEATURES

- Temperature range: room temperature plus 5 °C to 300 °C
- APT.line™ preheating chamber technology
- Adjustable fan speed
- Adjustable exhaust air flap
- Controller with time-segment and real-time programming
- 2 chrome-plated racks
- Class 2 independent adjustable temperature safety device (DIN 12880) with visual alarm
- Computer interface: RS 422

ORDERING INFORMATION

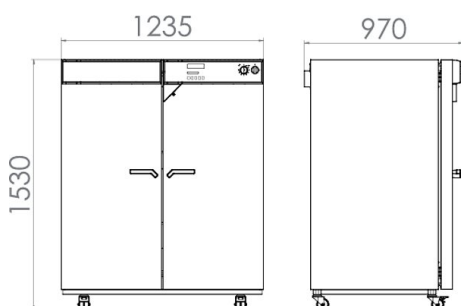
| Interior volume [L] | Voltage | Option model | Version | Art.-No. |
|---------------------|----------------------|--------------|--------------|-----------|
| Model FP 720 | | | | |
| 720 | 400 V 3~ ph 50/60 Hz | Standard | FP720-400V | 9010-0267 |
| | 208 V 3~ ph 60 Hz | Standard | FP720UL-208V | 9010-0268 |

TECHNICAL DATA

| Description | FP720-400V ¹ | FP720UL-208V ¹ |
|--|-------------------------|---------------------------|
| Article Number | 9010-0267 | 9010-0268 |
| Performance Data Temperature | | |
| Temperature range 5 °C above ambient temperature to [°C] | 300 | 300 |
| Temperature variation at 150 °C [± K] | 2 | 2 |
| Temperature fluctuation at 150 °C [± K] | 0.3 | 0.3 |
| Heating-up time to 150 °C [min] | 39 | 39 |
| Recovery time after 30 seconds door open at 150 °C [min] | 20 | 20 |
| Air change data | | |
| Air change (approx.) at 150 °C [x/h] | 12 | 12 |
| Electrical data | | |
| Rated Voltage [V] | 400 | 208 |
| Power frequency [Hz] | 50/60 | 60 |
| Nominal power [kW] | 5 | 5 |
| Unit fuse [A] | 3 x 16 | 3 x 16 |
| Phase (Nominal voltage) | 3~ | 3~ |
| Internal Dimensions | | |
| Depth [mm] | 610 | 610 |
| Height [mm] | 1200 | 1200 |
| Width [mm] | 1000 | 1000 |
| Housing dimensions not incl. fittings and connections | | |
| Width net [mm] | 1235 | 1235 |
| Height net [mm] | 1530 | 1530 |
| Depth net [mm] | 865 | 865 |
| Measures | | |
| Wall clearance back [mm] | 160 | 160 |
| Wall clearance sidewise [mm] | 100 | 100 |
| Interior volume [L] | 720 | 720 |
| Net weight of the unit (empty) [kg] | 194 | 194 |
| permitted load [kg] | 120 | 120 |
| Load per rack [kg] | 45 | 45 |
| Environment-specific data | | |
| Energy consumption at 150 °C [Wh/h] | 1320 | 1320 |
| Fixtures | | |
| Number of shelves (std./max.) | 2/16 | 2/16 |

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]



OPTIONS AND ACCESSORIES

| Designation | Description | * | Art.-No. |
|---|--|--------|-----------|
| | back | | |
| | 10 mm | 01 | 8012-1286 |
| | 30 mm | 01 | 8012-1370 |
| | 50 mm | 01 | 8012-1386 |
| | left | | |
| | 10 mm | 01 | 8012-1279 |
| | 30 mm | 01 | 8012-1362 |
| | 50 mm | 01 | 8012-1378 |
| | 100 mm | 01, 11 | 8012-1510 |
| Access port with silicone plug | right | | |
| | 10 mm | 01 | 8012-1272 |
| | 30 mm | 01 | 8012-1357 |
| | 50 mm | 01 | 8012-1374 |
| | 100 mm | 01, 11 | 8012-1507 |
| | top | | |
| | 10 mm | 01 | 8012-1265 |
| | 30 mm | 01 | 8012-1366 |
| | 50 mm | 01 | 8012-1382 |
| | 100 mm | 01, 10 | 8012-1389 |
| Analog output 4-20 mA | for temperature values (output not adjustable) | 02 | 8012-0481 |
| 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 |
| Calibration certificate, expanded | for temperature; for extending the measurement in center of chamber to include another test temperature | - | 8012-1119 |
| | for temperature, measurement in center of chamber at specified temperature | - | 8012-1138 |
| Calibration certificate, temperature | temperature measurement incl. certificate and 27 measuring points at specified temperature | - | 8012-1597 |
| | temperature measurement incl. certificate, 15- 18 measuring points at specified temperature | - | 8012-1576 |
| | temperature measurement incl. certificate, 9 measuring points at specified temperature | - | 8012-1555 |
| Class 3.1 independent temperature safety device | with visual alarm (DIN 12880) | 04, 12 | 8012-1149 |
| Data Logger Kit | T 350: For continuous temperature logging from 0 °C to 350 °C; kit includes 1 data logger, Pt 100 sensor with 2 m extension cable and 1 magnetic fixture for mounting to the BINDER unit | 19 | 8012-0714 |
| 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 gasket | made of FKM, silicone-free | 03 | 8012-1314 |
| Door lock | lockable door handle | - | 8012-1255 |
| Fan, reinforced | to increase air change rates 400 V option model | - | 8012-1201 |
| HEPA air filter | On fresh air supply for unit; filter classification H14 (acc. to. EN 1822-1:2009, > 99.995% at 0.3 µm) | - | 8012-1169 |
| Inner chamber, reinforced | including 2 reinforced racks | - | 8012-1258 |
| Instrument tray | with lid made from 18/8 stainless steel, stackable, dimensions: 230 x 133 x 45 mm | - | 4022-0123 |
| | with lid made from 18/8 stainless steel, stackable, dimensions: 315 x 215 x 60 mm | - | 4022-0124 |
| Measurement of air exchange rate | in accordance with ASTM D5374, definition and protocol according to ambient temperature | - | 8012-1198 |
| pH-neutral detergent | concentrated, for gentle remove of residual contaminants; 1 kg | - | 1002-0016 |

* Notes › See last page

| Designation | Description | * | Art.-No. |
|--------------------------------------|--|---|-----------|
| Pt 100 temperature sensor | additional flexible Pt 100, interior, for displaying the temperature on the unit display | - | 8012-0504 |
| Rack | chrome plated | - | 6004-0006 |
| | stainless steel | - | 6004-0010 |
| Rack accessories | fasteners (1 set of 4) for additional security of racks | - | 8012-0531 |
| Rack, reinforced | stainless steel, with fasteners (1 set of 4) | - | 8012-0374 |
| Shelf, perforated | Stainless steel | - | 6004-0033 |
| Viewing window and interior lighting | viewing window in each door, 470 x 290 mm, and 30 W interior lighting | | |
| | 120 V option model | - | 8012-0241 |
| | 230 V option model | - | 8012-0062 |
| Zero voltage relay contacts | for controlling 3 relay contacts via program regulators, accessible via 6-pin DIN socket (max. 24 V - 2.5 A) | | |
| | 120 V option model | - | 8012-0472 |
| | 230 V option model | - | 8012-0471 |

* 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 | DL10-0100 |
| Instruction | unit function instructions for operation and programming of the controller | 18 | DL10-0500 |
| Preventive maintenance | | | |
| Preventive maintenance | Executive of equipment inspection according to maintenance plan | 14, 18 | DL20-0200 |
| Calibration services | | | |
| Calibration temperature incl. certificate | including certificate, one measuring point in center of chamber at specified temperature | 14, 16, 17, 18 | DL30-0101 |
| Measurement of air exchange rate | including certificate (in accordance with ASTM D5374) | 14, 16, 17, 18 | DL33-0000 |
| 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 | 8012-0856 |
| 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 | 8012-0945 |
| Warranty service | | | |
| Extension of the warranty from 2 to 3 years | beginning with the date of delivery, wearing parts are not included | - | DL00-5041 |
| Extension of the warranty from 2 to 5 years | beginning with the date of delivery, wearing parts are not included | - | DL00-5042 |

* Notes › See last page



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