

Model ED 23 | Drying and heating chambers with natural convection

The strengths of a BINDER ED series drying chamber include routine drying and sterilization tasks up to 300 °C. Thanks to the natural convection, all thermal processes which use this drying chamber are highly efficient. The ED series ensures fast, uniform drying.

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



Model 23

MAIN FEATURES

- Temperature range: room temperature plus 5 °C to 300 °C
- APT.line™ preheating chamber technology
- Natural convection
- Adjustable exhaust air flap
- Controller with timer functions
- 2 chrome-plated racks
- Class 2 independent adjustable temperature safety device (DIN 12880) with visual alarm

ORDERING INFORMATION

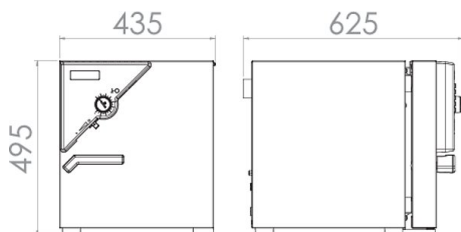
| Interior volume [L] | Voltage | Option model | Version | Art.-No. |
|---------------------|----------------------|--------------|----------------|-----------|
| Model ED 23 | | | | |
| 20 | 230 V 1~ ph 50/60 Hz | Standard | ED023-230V | 9010-0190 |
| | | with RS 422 | ED023-230V-I | 9010-0191 |
| | 120 V 1~ ph 60 Hz | Standard | ED023UL-120V | 9010-0192 |
| | | with RS 422 | ED023UL-120V-I | 9010-0193 |

TECHNICAL DATA

| Description | ED023-230V ¹ | ED023-230V-I ¹ | ED023UL-120V ¹ | ED023UL-120V-I ¹ |
|--|-------------------------|---------------------------|---------------------------|-----------------------------|
| Article Number | 9010-0190 | 9010-0191 | 9010-0192 | 9010-0193 |
| Performance Data Temperature | | | | |
| Temperature range 5 °C above ambient temperature to [°C] | 300 | 300 | 300 | 300 |
| Temperature variation at 150 °C [± K] | 2.8 | 2.8 | 2.8 | 2.8 |
| Temperature fluctuation at 150 °C [± K] | 0.5 | 0.5 | 0.5 | 0.5 |
| Heating-up time to 150 °C [min] | 28 | 28 | 28 | 28 |
| Recovery time after 30 seconds door open at 150 °C [min] | 5 | 5 | 5 | 5 |
| Air change data | | | | |
| Air change (approx.) at 150 °C [x/h] | 13 | 13 | 13 | 13 |
| Electrical data | | | | |
| Rated Voltage [V] | 230 | 230 | 120 | 120 |
| Power frequency [Hz] | 50/60 | 50/60 | 60 | 60 |
| Nominal power [kW] | 0.8 | 0.8 | 0.8 | 0.8 |
| Unit fuse [A] | 10 | 10 | 12.5 | 12.5 |
| Phase (Nominal voltage) | 1~ | 1~ | 1~ | 1~ |
| Internal Dimensions | | | | |
| Depth [mm] | 300 | 300 | 300 | 300 |
| Height [mm] | 330 | 330 | 330 | 330 |
| Width [mm] | 222 | 222 | 222 | 222 |
| Housing dimensions not incl. fittings and connections | | | | |
| Width net [mm] | 435 | 435 | 435 | 435 |
| Height net [mm] | 495 | 495 | 495 | 495 |
| Depth net [mm] | 520 | 520 | 520 | 520 |
| Measures | | | | |
| Wall clearance back [mm] | 100 | 100 | 100 | 100 |
| Wall clearance sidewise [mm] | 100 | 100 | 100 | 100 |
| Interior volume [L] | 20 | 20 | 20 | 20 |
| Net weight of the unit (empty) [kg] | 27 | 27 | 27 | 27 |
| permitted load [kg] | 25 | 25 | 25 | 25 |
| Load per rack [kg] | 12 | 12 | 12 | 12 |
| Doors | | | | |
| Unit doors | 1 | 1 | 1 | 1 |
| Environment-specific data | | | | |
| Energy consumption at 150 °C [Wh/h] | 148 | 148 | 148 | 148 |
| Fixtures | | | | |
| Number of shelves (std./max.) | 2/4 | 2/4 | 2/4 | 2/4 |

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. 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. |
|---|--|-----------|-----------|
| Access port with silicone plug | back | | |
| | 10 mm | 01 | 8012-1282 |
| | 30 mm | 01 | 8012-0540 |
| | 50 mm | 01 | 8012-0546 |
| | left | | |
| | 10 mm | 01 | 8012-1275 |
| | 30 mm | 01 | 8012-0537 |
| | 50 mm | 01 | 8012-0542 |
| | right | | |
| | 10 mm | 01 | 8012-1268 |
| | 30 mm | 01 | 8012-0536 |
| | 50 mm | 01 | 8012-0541 |
| | top | | |
| | 10 mm | 01 | 8012-1262 |
| | 30 mm | 01 | 8012-0539 |
| 50 mm | 01 | 8012-0545 | |
| Alarm function for overheating | Switchable acoustic alarm, with adjustable limit value on the independent temperature safety device | | |
| | 120 V option model | - | 8012-1303 |
| | 230 V option model | - | 8012-1299 |
| Analog output 4-20 mA | for temperature values (output not adjustable) | - | 8012-0430 |
| 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 | - | 8012-1115 |
| Calibration certificate, temperature | for temperature, measurement in center of chamber at specified temperature | - | 8012-1134 |
| | temperature measurement incl. certificate and 27 measuring points at specified temperature | - | 8012-1593 |
| | temperature measurement incl. certificate, 15- 18 measuring points at specified temperature | - | 8012-1572 |
| | temperature measurement incl. certificate, 9 measuring points at specified temperature | - | 8012-1551 |
| Class 3.1 independent temperature safety device | with visual alarm (DIN 12880) | 04, 12 | 8012-0032 |
| 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 | 8012-0493 |
| Door lock | lockable door handle | - | 8012-1246 |

* Notes › See last page

| Designation | Description | * | Art.-No. |
|--------------------------------------|---|---|-----------|
| 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 | - | 8012-0195 |
| pH-neutral detergent | concentrated, for gentle remove of residual contaminants; 1 kg | - | 1002-0016 |
| Pt 100 temperature sensor | additional flexible Pt 100, interior, with external connection incl. LEMO connector (3-pin) | - | 8012-1173 |
| Rack | chrome plated | - | 6004-0050 |
| | stainless steel | - | 6004-0051 |
| Rubber pads | set anti-slip feet | - | 8012-1887 |
| Shelf, perforated | Stainless steel | - | 6004-0052 |
| Viewing window and interior lighting | viewing window in door, 180 x 180 mm, and 15 W interior lighting | | |
| | 120 V option model | - | 8012-0379 |
| | 230 V option model | - | 8012-0378 |

* 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 | DL40-0100 |
| 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 | 8012-0761 |
| 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 | 8012-0942 |
| Warranty service | | | |
| Extension of the warranty from 2 to 3 years | beginning with the date of delivery, wearing parts are not included | - | DL00-2041 |
| Extension of the warranty from 2 to 5 years | beginning with the date of delivery, wearing parts are not included | - | DL00-2042 |

* Notes › See last page



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