

Model ED 23 | Drying and heating chambers with gravity convection

The strengths of a BINDER ED series drying chamber include routine drying and sterilization tasks up to 300 °C. Thanks to the gravity 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
- Gravity 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 [cu.ft.] | Voltage | Option model | Version | Art.-No. |
|--------------------------|-------------------|--------------|----------------|-----------|
| 0.7 | 230 V 1~ 50/60 Hz | Standard | ED023-230V | 9010-0190 |
| | | with RS 422 | ED023-230V-I | 9010-0191 |
| | 120 V 1~ 60 Hz | Standard | ED023UL-120V | 9010-0192 |
| | | with RS 422 | ED023UL-120V-I | 9010-0193 |

TECHNICAL DATA

| Description | EDo23-230V ¹ | EDo23-230V-I ¹ | EDo23UL-120V ¹ | EDo23UL-120V-I ¹ |
|--|-------------------------|---------------------------|---------------------------|-----------------------------|
| Article Number | 9010-0190 | 9010-0191 | 9010-0192 | 9010-0193 |
| Performance Data Temperature | | | | |
| Temperature range +5 °C above ambient temperature to | 300 °C | 300 °C | 300 °C | 300 °C |
| 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~ |
| Measures | | | | |
| Interior volume [cu.ft.] | 0.7 | 0.7 | 0.7 | 0.7 |
| Net weight of the unit (empty) [lbs] | 60 | 60 | 60 | 60 |
| Permitted load [lbs] | 55 | 55 | 55 | 55 |
| Load per rack [lbs] | 26 | 26 | 26 | 26 |
| Wall clearance back [in] | 3.94 | 3.94 | 3.94 | 3.94 |
| Wall clearance sidewise [in] | 3.94 | 3.94 | 3.94 | 3.94 |
| Internal Dimensions | | | | |
| Width [in] | 8.75 | 8.75 | 8.75 | 8.75 |
| Height [in] | 13 | 13 | 13 | 13 |
| Depth [in] | 11.82 | 11.82 | 11.82 | 11.82 |
| Doors | | | | |
| Unit doors | 1 | 1 | 1 | 1 |
| Housing dimensions not incl. fittings and connections | | | | |
| Width net [in] | 17.14 | 17.14 | 17.14 | 17.14 |
| Height net [in] | 19.5 | 19.5 | 19.5 | 19.5 |
| Depth net [in] | 20.49 | 20.49 | 20.49 | 20.49 |
| 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**

| Designation | Description | * | Art.-No. |
|---|---|-----------|-----------|
| Calibration certificate, temperature | temperature measurement incl. certificate and 27 measuring points at specified temperature | - | 8012-1593 |
| | additional flexible Pt 100, interior, with external connection incl. LEMO connector (3-pin) | - | 8012-1173 |
| | back | | |
| | 10 mm | 01 | 8012-1282 |
| | 30 mm | 01 | 8012-0540 |
| | 50 mm | 01 | 8012-0546 |
| | for temperature values (output not adjustable) | - | 8012-0430 |
| | for temperature; for extending the measurement in center of chamber to include another test temperature | - | 8012-1115 |
| | in accordance with ASTM D5374, definition and protocol according to ambient temperature | - | 8012-0195 |
| | left | | |
| | 10 mm | 01 | 8012-1275 |
| | 30 mm | 01 | 8012-0537 |
| | 50 mm | 01 | 8012-0542 |
| | lockable door handle | - | 8012-1246 |
| | made of FKM, silicone-free | 03 | 8012-0493 |
| | Measurement in center of chamber at specified temperature | - | 8012-1134 |
| | right | | |
| | 10 mm | 01 | 8012-1268 |
| | 30 mm | 01 | 8012-0536 |
| | 50 mm | 01 | 8012-0541 |
| | Switchable acoustic alarm, with adjustable limit value on the independent temperature safety device | | |
| | 120/208 V option model | - | 8012-1303 |
| | 230/400 V option model | - | 8012-1299 |
| 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 | |
| top | | | |
| 10 mm | 01 | 8012-1262 | |
| 30 mm | 01 | 8012-0539 | |
| 50 mm | 01 | 8012-0545 | |
| 100 mm | 01, 10 | 8012-0547 | |
| 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 | |
| with visual alarm (DIN 12880) | 04, 12 | 8012-0032 | |

* Notes › See last page

ACCESSORIES

| Designation | Description | * | Art.-No. |
|--|---|-----------|-----------|
| Multi Management Software | Multi Management Software APT-COM™ version 4, BASIC edition | 19 | 9053-0039 |
| | version 4, GLP edition | 19 | 9053-0042 |
| | version 4, PROFESSIONAL edition | 19 | 9053-0040 |
| Options/Accessories | chrome plated | – | 6004-0050 |
| | Stainless steel | – | 6004-0052 |
| | stainless steel | – | 6004-0051 |
| | concentrated, for gentle remove of residual contaminants; 1 kg | – | 1002-0016 |
| | IQ/OQ documents – supporting documents for validation performed by customers, consisting of: IQ/OQ checklists incl. calibration guide and comprehensive unit documentation; parameters: temperature, CO ₂ , O ₂ , pressure, depending on unit | | |
| | Digital in PDF format | – | 7057-0001 |
| | Hard copy inside folder | – | 7007-0001 |
| | 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, CO ₂ , O ₂ – or pressure, depending on unit | | |
| | Digital in PDF format | – | 7057-0005 |
| | Hard copy inside folder | – | 7007-0005 |
| | LOG ANALYZE software kit, configuration and evaluation software for all BINDER Data Logger Kits (incl. USB data cable) | 19 | 8012-0821 |
| set of 4 anti-slip feet, for safe stacking of units | – | 8012-1887 | |
| 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 | |
| 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 | |

* Notes › See last page

SERVICES

| Designation | Description | * | Art.-No. |
|-------------------------------|--|----------------|-----------|
| Installation services | | | |
| Services | Unit function instructions for operation and programming of the controller | 18 | DL10-0500 |
| | Unpacking and setting up of unit, connecting to existing connections, and checking function | 13, 18 | DL10-0100 |
| Preventive maintenance | | | |
| Services | Executive of equipment inspection according to maintenance plan | 14, 18 | DL20-0200 |
| Calibration services | | | |
| Services | Expansion – including certificate, each additional measuring point in center of chamber at specified test temperature | 14, 16, 17, 18 | DL30-0102 |
| | including certificate (in accordance with ASTM D5374) | 14, 16, 17, 18 | DL33-0000 |
| | Temperature calibration with 1 measuring point in center of chamber at a specified test temperature, including certificate | 14, 16, 17, 18 | DL30-0101 |
| | Temperature measurement with 18 measuring points at a specified test temperature, including certificate | 14, 16, 17, 18 | DL30-0118 |
| | Temperature measurement with 27 measuring points at a specified test temperature, including certificate | 14, 16, 17, 18 | DL30-0127 |
| | Temperature measurement with 9 measuring points at a specified test temperature, including certificate | 14, 16, 17, 18 | DL30-0109 |
| Validation services | | | |
| Services | Execution of IQ/OQ in accordance with qualification folder | 15, 18 | DL40-0100 |
| | Execution of IQ/OQ/PQ in accordance with qualification folder | 15, 18 | DL44-0500 |
| Warranty service | | | |
| Services | The warranty is extended from 2 to 3 years from the delivery date, wear parts are excluded | – | DL00-2041 |
| | The warranty is extended from 2 to 5 years from the delivery date, wear parts are excluded | – | DL00-2042 |

* 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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