

Model FD 115 | Drying and heating chambers with forced convection

A BINDER FD series Avantgarde.Line heating oven is always used when fast drying and sterilization is required. Thanks to its fully homogeneous temperature distribution, quick dynamics and powerful fan, this heating oven saves valuable time.

BENEFITS

- Best energy efficiency on the market
- Excellent temporal and spatial temperature accuracy
- USB connection for recording data
- Temperature range up to 300 °C



Model 115

MAIN FEATURES

- Temperature range: ambient temperature plus 10 °C to 300 °C
- High temperature accuracy thanks to APT.line™ technology
- Forced convection
- Controller with LCD display
- Electromechanical control of the exhaust air flap
- 2 chrome-plated racks
- Units up to 115 L are stackable
- Class 2 independent temperature safety device (DIN 12880) with visual temperature alarm
- Ergonomic handle design
- USB port for recording data

ORDERING INFORMATION

| Interior volume [cu.ft.] | Voltage | Option model | Version | Art.-No. |
|--------------------------|-------------------|--------------|--------------|-----------|
| 4.1 | 230 V 1~ 50/60 Hz | Standard | FD115-230V | 9010-0305 |
| | 120 V 1~ 60 Hz | Standard | FD115UL-120V | 9010-0306 |

TECHNICAL DATA

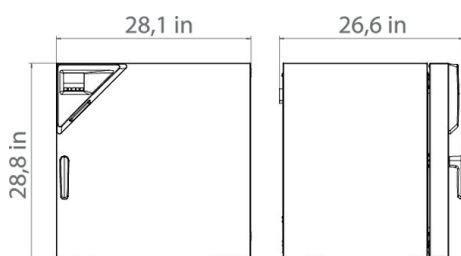
| Description | FD115-230V ¹ | FD115UL-120V ¹ |
|--|-------------------------|---------------------------|
| Article Number | 9010-0305 | 9010-0306 |
| Performance Data Temperature | | |
| Temperature range +10 °C above ambient temperature to [°C] | 300 | 300 |
| Temperature variation at 150 °C [± K] | 1.7 | 1.7 |
| Temperature fluctuation at 150 °C [± K] | 0.3 | 0.3 |
| Heating-up time to 150 °C [min] | 18 | 18 |
| Recovery time after 30 seconds door open at 150 °C [min] | 4 | 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 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.

| Description | FD115-230V ¹ | FD115UL-120V ¹ |
|--|-------------------------|---------------------------|
| Article Number | 9010-0305 | 9010-0306 |
| Air change data | | |
| Air change (approx.) at 100 °C [x/h] | 32 | 32 |
| Electrical data | | |
| Rated Voltage [V] | 230 | 120 |
| Power frequency [Hz] | 50/60 | 60 |
| Nominal power [kW] | 1.3 | 1.4 |
| Unit fuse [A] | 6.3 | 12.5 |
| Phase (Nominal voltage) | 1~ | 1~ |
| Measures | | |
| Interior volume [cu.ft.] | 4.1 | 4.1 |
| Net weight of the unit (empty) [lbs] | 126 | 126 |
| Permitted load [lbs] | 331 | 331 |
| Load per rack [lbs] | 66 | 66 |
| Wall clearance back [in] | 6.3 | 6.3 |
| Wall clearance sidewise [in] | 3.94 | 3.94 |
| Internal Dimensions | | |
| Width [in] | 21.67 | 21.67 |
| Height [in] | 21.67 | 21.67 |
| Depth [in] | 15.17 | 15.17 |
| Doors | | |
| Unit doors | 1 | 1 |
| Housing dimensions not incl. fittings and connections | | |
| Width net [in] | 27.97 | 27.97 |
| Height net [in] | 28.96 | 28.96 |
| Depth net [in] | 23.84 | 23.84 |
| Environment-specific data | | |
| Energy consumption at 150 °C [Wh/h] | 340 | 340 |
| Sound-pressure level [dB(A)] | 43 | 43 |
| Fixtures | | |
| Number of shelves (std./max.) | 2/5 | 2/5 |

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]



OPTIONS

| Designation | Description | * | Art.-No. | |
|----------------------------|--|--|-----------|-----------|
| Options/Accessories | Calibration certificate, temperature | temperature measurement incl. certificate and 27 measuring points at specified temperature | – | 8012-1594 |
| | | additional flexible Pt 100, interior, for displaying the temperature on the unit display | – | 8012-1620 |
| | | battery-backed | – | 8012-1641 |
| | | For faster heating up time and improved recovery time; max. 300 °C; not in conjunction with load management option 120/230 V option model | – | 8012-1057 |
| | | for Multi Management Software APT-COM™ | – | 8012-0988 |
| | | for temperature values (output not adjustable) | 02 | 8012-1624 |
| | | for temperature; for extending the measurement in center of chamber to include another test temperature | – | 8012-1116 |
| | | in accordance with ASTM D5374, definition and protocol according to ambient temperature | – | 8012-1195 |
| | | Incl. additional measures for the greatest possible impermeability to gas; not in conjunction with access port or interior lighting option | 09 | 8012-1685 |
| | | left | | |
| | | 10 mm | 01 | 8012-1276 |
| | | 30 mm | 01 | 8012-1016 |
| | | 50 mm | 01 | 8012-1020 |
| | | 100 mm | 01 | 8012-1027 |
| | | lockable door handle | – | 8012-1665 |
| | | made of FKM, silicone-free | 03 | 8012-1650 |
| | | max. total load 170 kg | – | 8012-1054 |
| | | Measurement in center of chamber at specified temperature | – | 8012-1135 |
| | | On fresh air supply for unit; filter classification H14 (acc. to EN 1822-1:2009, > 99.995% at 0.3 µm) | – | 8012-1051 |
| | | right | | |
| | | 10 mm | 01 | 8012-1269 |
| | | 30 mm | 01 | 8012-1015 |
| | | 50 mm | 01 | 8012-1019 |
| | | 100 mm | 01 | 8012-1028 |
| | | Switchable acoustic alarm, with adjustable limit value on the independent temperature safety device | – | 8012-1636 |
| | | temperature measurement incl. certificate, 15- 18 measuring points at specified temperature | – | 8012-1573 |
| | | temperature measurement incl. certificate, 9 measuring points at specified temperature | – | 8012-1552 |
| | | top | | |
| | | 10 mm | 01 | 8012-1263 |
| | | 30 mm | 01 | 8012-1364 |
| | | 50 mm | 01 | 8012-1380 |
| | | 100 mm | 01, 10 | 8012-1671 |
| | | viewing window (triple insulating glass) in door, 370 x 370 mm, and 15 W interior | | |
| | 120 V option model | – | 8012-1706 | |
| | 230 V option model | – | 8012-1704 | |
| | with 15 W light bulb | | | |
| | 120 V option model | – | 8012-1632 | |
| | 230/240 V option model | – | 8012-1628 | |
| | With gas inlet and outlet, Ø 10 mm, incl. additional measures for the greatest possible impermeability to gas; not in conjunction with access port or interior lighting option | – | 8012-1691 | |
| | with visual alarm (DIN 12880) | 04, 12 | 8012-1643 | |

* 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 |
| | chrome plated | – | 6004-0167 |
| | Stainless steel | – | 6004-0183 |
| | stainless steel | – | 6004-0151 |
| | 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 |
| Options/Accessories | 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 |
| | stable cart, casters with locking brakes, dimensions: W 1,000 x D 800 x H 780 mm | – | 9051-0018 |
| | Stainless steel, max. load per rack 70 kg | – | 6004-0199 |
| | 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 |

* Notes › See last page

| Designation | Description | * | Art.-No. |
|------------------|--|---|-----------|
| Warranty service | | | |
| Services | The warranty is extended from 2 to 3 years from the delivery date, wear parts are excluded | - | DLo0-3041 |
| | The warranty is extended from 2 to 5 years from the delivery date, wear parts are excluded | - | DLo0-3042 |

* Notes › See last page

NOTES

| | |
|----|----------|
| 01 | Hinweise |
| 02 | Hinweise |
| 03 | Hinweise |
| 04 | Hinweise |
| 07 | Hinweise |
| 09 | Hinweise |
| 10 | Hinweise |
| 11 | Hinweise |
| 12 | Hinweise |
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| 17 | Hinweise |
| 18 | Hinweise |
| 19 | Hinweise |

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