# Model FDL 115 | Safety drying chambers for limited quantities of solvent

**The BINDER FDL 115 with silicone and dust-free inner chamber, as well as symmetric airflow dries specimens containing solvents and thus this safety drying oven meets all EN 1539 requirements.**

## BENEFITS

- Safety concept meets the DIN EN 1539-2010-08 standard
- Short drying time with high temperature accuracy and defined ventilation
- Silicone free and dust-free inner chamber
- Replaceable fresh air cartridges are easy to change and ensure constant fresh air quality



Model 115



Model 115

## IMPORTANT FEATURES

- Temperature range: +10°C above ambient temperature to +300 °C
- APT.line™ preheating chamber technology
- Controller with time-segment and real-time programming
- 2 chrome-plated racks
- Fresh-air monitoring with audible and visual alarm and automatic deactivation of heating
- Replaceable filter cartridge, Class M6
- Class 2 independent adjustable temperature safety device (DIN 12880) with visual alarm
- Computer interface: RS 422
- Standard door gasket made from solvent-resistant FKM for use at up to 200 °C
- Optional door gasket made from silicone with limited solvent resistance for use at up to 300 °C

## ORDERING INFORMATION

| Interior volume | | Power supply - unit fuse | Plug* | Version | Model version | Art.-No. |
|---|---|---|---|---|---|---|
| [cu.ft.] | [L] | | | | | |
| **Model FDL 115** | | | | | | |
| 4 | 115 | 230 V 1~ 50/60 Hz - | CEE 7/7 | Standard | FDL115-230V | 9010-0292 |

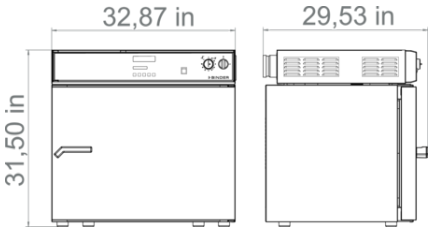
## TECHNICAL DATA

| | |
|---|---|
| **Data** | |
| Article Number | 9010-0292 |
| Designation | FDL115-230V |
| Option model | Standard |
| **Performance Data Temperature** | |
| Temperature range | +10 °C above ambient temperature to 300 °C |
| Temperature uniformity at 150°C | 2.5 ± K |
| Temperature fluctuation at 150°C | 0.8 ± K |
| Heating up time to 150°C | 20 min |
| Recovery time after door was opened for 30 s at 150°C | 12 min |
| **Air change data** | |
| Air circulation (approx.) | 20 x/min |
| Volumetric flow rate of exhaust air acc. to EN 1539 at 50 °C | 400 ca. L/min |
| **Solvent quantity** | |
| Highest permitted solvent quantity (at T-180°C, M-100g/mol, U-40g/m3, K=0,5) | 4,67 g |
| **Electrical data** | |
| Rated Voltage | 230 V |
| Power frequency | 50/60 Hz |
| Nominal power | 2,9 kW |
| Phase (Nominal voltage) | 1~ |
| **Dimensions and weights** | |
| Interior volume | 4 cu.ft. |
| Net weight of the unit (empty) | 198 lbs |
| Load per rack | 66 lbs |
| Permitted load | 132 lbs |
| Wall clearance back | 6,3 in |
| Wall clearance sidewise | 3,94 in |
| **Housing dimensions not incl. fittings and connections** | |
| Width net | 32.68 in |
| Height net | 31.69 in |

| | |
|---|---|
| Depth net | 26.97 in |
| **Internal Dimensions** | |
| Interior width | 23.62 in |
| Interior height | 17.13 in |
| Interior depth | 17.13 in |
| Unit doors | 1 |
| **Environment-specific data** | |
| Sound-pressure level | 57 dB(A) |
| Energy consumption at 150°C | 1,200 Wh/h |
| **Fixtures** | |
| Number of shelves (std./max.) | 2/5 |

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

| Designation | Description | * | Art.-No. |
|---|---|---|---|
| Access port with silicone plug | back | | |
| | 10 mm | 01 | 8012-1284 |
| | left | | |
| | 10 mm | 01 | 8012-1277 |
| | 30 mm | 01 | 8012-1360 |
| | right | | |
| | 10 mm | 01 | 8012-1270 |
| | 30 mm | 01 | 8012-1355 |
| Calibration certificate, expanded | for temperature; for extending the measurement in center of chamber to include another test temperature | - | 8012-1117 |

| Designation | Description | * | Art.-No. |
|---|---|---|---|
| Calibration certificate, temperature | for temperature, measurement in center of chamber at specified temperature | - | 8012-1136 |
| | temperature measurement incl. certificate, 9 measuring points at specified temperature | - | 8012-1553 |
| | temperature measurement incl. certificate, 15- 18 measuring points at specified temperature | - | 8012-1574 |
| | temperature measurement incl. certificate and 27 measuring points at specified temperature | - | 8012-1595 |
| Coil coating door flap | door flap for coil coating tests | - | 8012-0179 |
| Door gasket | made from silicone, resistant to high temperatures for operating temperatures above 200°C. Note: The gasket wears out more quickly in temperatures above 250°C | - | 8012-0499 |
| Door lock | lockable door handle | - | 8012-1248 |
| Measurement of air exchange rate | in accordance with ASTM D5374, definition and protocol according to ambient temperature | - | 8012-1196 |

## ACCESSORIES

| Designation | Description | * | Art.-No. |
|---|---|---|---|
| APT-COM™ 4 BASIC-Edition | for simple logging and documentation requirements with up to 5 networked units. | | |
| | version 4, BASIC edition | - | 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 | - | 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 | - | 9053-0040 |
| pH-neutral detergent | concentrated, for gentle remove of residual contaminants; 1 kg | - | 8012-2250 |
| Rack | stainless steel | - | 8012-2048 |
| Shelf, perforated | Stainless steel | - | 8012-2161 |
| Table on castors | stable cart, casters with locking brakes, dimensions: W 1,000 x D 800 x H 780 mm | - | 9051-0018 |

## SERVICES

| Designation | Description | * | Art.-No. |
|---|---|---|---|
| **Calibration services** | | | |
| Temperature calibration | Calibration of one (1) test temperature specified by the user in center of chamber, including certificate Travel to be quoted separate. | 05 | DL30-0120 |
| | Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate Travel to be quoted separate. | 05 | DL30-0102 |

| Designation | Description | * | Art.-No. |
|---|---|---|---|
| Temperature measurement, 9 measuring points | Temperature measurement with 9 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 3 shelves are required. | 05 | DL30-0109 |
| Temperature measurement, 18 measuring points | Temperature measurement with 18 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 2 shelves are required. | 05 | DL30-0118 |
| Temperature measurement, 27 measuring points | Temperature measurement with 27 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 3 shelves are required. | 05 | DL30-0127 |
| **Installation services** | | | |
| Unit installation | Connect the unit to the customer-side connections (electricity, water, wastewater, gas), basic functions check, brief operating instructions. (excl.: unpacking, setup, controller instructions, programming, installation work) Travel to be quoted as separate. | 05 | DL10-0100 |
| Unit instructions | Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming. Travel to be quoted as separate Limited to 3 hours. | 05 | DL10-0500 |
| **Maintenance services** | | | |
| BRONZE 3-year maintenance contract | Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate. 10% Discount on Spare Parts and Labor for any additional Services needed Wear + tear parts to be purchased or billed to customer. Travel to be quoted as separate. | 05 | DL20-0720 |
| Preventive maintenance | One-off maintenance service in accordance with maintenance schedule. Visual inspection of mechanical and electrical components, testing of all key functions. Checking a test temperature specified by the user in center of usable space without certificate. Wear + tear parts need to be purchased or billed to customer. Travel to be quoted as separate. | 05 | DL20-0602 |
| SILVER 3-year maintenance contract | Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate 15% Discount on Spare Parts and Labor for any additional Services needed One additional courtesy visit per year can be used for service visit or operator training. Wear + tear parts to be purchased or billed to customer. Travel to be quoted separate. | 05 | DL20-0810 |
| **Validation services** | | | |
| Execution of IQ/OQ | Execution of IQ/OQ in accordance with qualification folder. Travel to be quoted separate. | 05 | DL40-0100 |
| Execution of IQ/OQ/PQ | Execution of IQ/OQ/PQ in accordance with qualification folder. Travel to be quoted separate. | 05 | DL44-0500 |
| **Warranty service** | | | |
| 1-year warranty extension | The warranty is extended by 1 year from the delivery date, wear parts are excluded | 05 | DL50-0010 |

## NOTES

05 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).

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