

# 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



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## MAIN 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

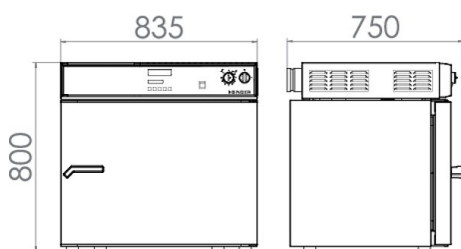
## ORDERING INFORMATION

Interior volume [L]	Voltage	Option model	Version	Art.-No.
115	230 V 1~ ph 50/60 Hz	Standard	FDL115-230V	9010-0292

**TECHNICAL DATA**

Description	FDL115-230V <sup>1</sup>
<b>Article Number</b>	<b>9010-0292</b>
<b>Performance Data Temperature</b>	
Temperature range +10 °C above ambient temperature to [°C]	300
Temperature variation at 150 °C [± K]	2.5
Temperature fluctuation [± K]	0.8
Heating-up time to 150 °C [min]	20
Recovery time after 30 seconds door open at 150 °C [min]	12
<b>Air change data</b>	
Air circulation (approx.) [x/min]	20
Volumetric flow rate of exhaust air acc. to EN 1539 at 50 °C [ca. L/min]	400
<b>Solvent quantity</b>	
Highest permitted solvent quantity (at T-180 °C, M-100g/mol, U-40g/m <sup>3</sup> , K=0,5) [g]	6.65
<b>Electrical data</b>	
Rated Voltage [V]	230
Power frequency [Hz]	50/60
Nominal power [kW]	2.9
Phase (Nominal voltage)	1~
<b>Measures</b>	
Interior volume [L]	115
Net weight of the unit (empty) [kg]	90
Permitted load [kg]	60
Load per rack [kg]	30
Wall clearance back [mm]	160
Wall clearance sidewise [mm]	100
<b>Internal Dimensions</b>	
Width [mm]	600
Height [mm]	435
Depth [mm]	435
<b>Housing dimensions not incl. fittings and connections</b>	
Width net [mm]	830
Height net [mm]	805
Depth net [mm]	685
<b>Environment-specific data</b>	
Energy consumption at 150 °C [Wh/h]	1200
Sound-pressure level [dB(A)]	57
<b>Fixtures</b>	
Number of shelves (std./max.)	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 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.
<b>Access port with silicone plug</b>	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
<b>Calibration certificate, expanded</b>	for temperature; for extending the measurement in center of chamber to include another test temperature	-	8012-1117
<b>Calibration certificate, temperature</b>	for temperature, measurement in center of chamber at specified temperature	-	8012-1136
	temperature measurement incl. certificate and 27 measuring points at specified temperature	-	8012-1595
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	-	8012-1574
	temperature measurement incl. certificate, 9 measuring points at specified temperature	-	8012-1553
<b>Coil coating door flap</b>	door flap for coil coating tests	-	8012-0179
<b>Door gasket</b>	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
<b>Door lock</b>	lockable door handle	-	8012-1248
<b>Measurement of air exchange rate</b>	in accordance with ASTM D5374, definition and protocol according to ambient temperature	-	8012-1196

\* Notes › See last page

**ACCESSORIES**

Designation	Description	*	Art.-No.
<b>APT-COM™ 4 BASIC-Edition</b>	for simple logging and documentation requirements with up to 5 networked units. version 4, BASIC edition	-	9053-0039
<b>APT-COM™ 4 GLP-Edition</b>	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
<b>APT-COM™ 4 PROFESSIONAL-Edition</b>	convenient unit and user management built on the BASIC edition. Suitable for networking up to 100 units. version 4, PROFESSIONAL edition	-	9053-0040
<b>pH-neutral detergent</b>	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-0016

\* Notes › See last page

Designation	Description	*	Art.-No.
<b>Qualification documents</b>	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 <sub>2</sub> , O <sub>2</sub> , 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 <sub>2</sub> , O <sub>2</sub> – or pressure, depending on unit		
<b>Rack</b>	Digital in PDF format	–	7057-0005
	Hard copy inside folder	–	7007-0005
<b>Shelf, perforated</b>	chrome plated	–	8012-2034
	stainless steel	–	8012-2048
<b>Shelf, perforated</b>	Stainless steel	–	6004-0030
<b>Table on castors</b>	stable cart, casters with locking brakes, dimensions: W 1,000 x D 800 x H 780 mm	–	9051-0018

\* Notes › See last page

## SERVICES

Designation	Description	*	Art.-No.
<b>Installation services</b>			
Unit commissioning	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)	05	DL10-0100
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming	05	DL10-0500
<b>Maintenance contracts</b>			
<b>Maintenance services</b>			
BRONZE 3-year maintenance contract	Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts	05	DL20-0710
GOLD 3-year maintenance contract	Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, replacement of wear parts, calibration of one test temperature specified by the user in the center of the usable space, including certificate	05	DL20-0910
Maintenance	One-off maintenance service in accordance with maintenance schedule. Visual inspection of mechanical and electrical components, testing of all key functions. Calibration of a test temperature specified by the user in center of usable space without certificate	05	DL20-0200
SILVER 3-year maintenance contract	Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, calibration of one test temperature specified by the user in the center of the usable space, without certificate	05	DL20-0810
<b>Calibration services</b>			
Calibration certificate, temperature	Calibration of one (1) test temperature specified by the user in center of chamber, including certificate	03, 04, 05	DL30-0101
	Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate	03, 04, 05	DL30-0102
Measurement of air exchange rate	including certificate (in accordance with ASTM D5374)	03, 04, 05	DL33-0000
Temperature measurement, 18 measuring points	Temperature measurement with 18 measuring points with a set value specified by the user, including certificate	03, 04, 05	DL30-0118
Temperature measurement, 27 measuring points	Temperature measurement with 27 measuring points with a set value specified by the user, including certificate	03, 04, 05	DL30-0127
Temperature measurement, 9 measuring points	Temperature measurement with 9 measuring points with a set value specified by the user, including certificate	03, 04, 05	DL30-0109
<b>Validation services</b>			
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder	05	DL40-0100
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder	05	DL44-0500
<b>Warranty service</b>			
1-year warranty extension	The warranty is extended by 1 year from the delivery date, wear parts are excluded	–	DL50-0010

\* 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 Sensor calibration is performed in an accredited calibration laboratory.
- 04 Calibration is performed according to the BINDER factory standard.
- 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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