

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

MAIN FEATURES

- Temperature range: room temperature plus 10 °C 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

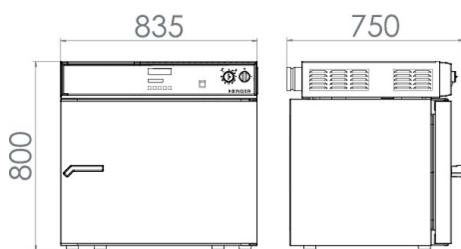
Interior volume [cu.ft.]	Voltage	Option model	Version	Art.-No.
4.1	230 V 1~ 50/60 Hz	Standard	FDL115-230V	9010-0292

TECHNICAL DATA

Description	FDL115-230V ¹
Article Number	9010-0292
Performance Data Temperature	
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
Air change data	
Air circulation (approx.) [x/min]	20
Volumetric flow rate of exhaust air acc. to EN 1539 at 50 °C [ca. L/min]	400
Solvent quantity	
Highest permitted solvent quantity (at T-180 °C, M-100g/mol, U-40g/m ³ , K=0,5) [g]	6.65
Electrical data	
Rated Voltage [V]	230
Power frequency [Hz]	50/60
Nominal power [kW]	2.9
Phase (Nominal voltage)	1~
Measures	
Interior volume [cu.ft.]	4.1
Net weight of the unit (empty) [lbs]	198
Permitted load [lbs]	132
Load per rack [lbs]	66
Wall clearance back [in]	6.3
Wall clearance sidewise [in]	3.94
Internal Dimensions	
Width [in]	23.64
Height [in]	17.14
Depth [in]	17.14
Housing dimensions not incl. fittings and connections	
Width net [in]	32.7
Height net [in]	31.72
Depth net [in]	26.99
Environment-specific data	
Energy consumption at 150 °C [Wh/h]	1200
Sound-pressure level [dB(A)]	57
Fixtures	
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.
	back		
	10 mm	01	8012-1284
	left		
Access port with silicone plug	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
	for temperature, measurement in center of chamber at specified temperature	-	8012-1136
Calibration certificate, temperature	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
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
Pt 100 temperature sensor	with clip temperature sensor and 4-20 mA analog output (e.g., for chart recorder connection), accessible via 6-pin DIN socket	-	8012-0602

* Notes › See last page

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	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
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-0016

* Notes › See last page

Designation	Description	*	Art.-No.
Qualification documents	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		
Rack	Digital in PDF format	–	7057-0005
	Hard copy inside folder	–	7007-0005
Shelf, perforated	chrome plated	–	6004-0003
	stainless steel	–	6004-0008
Table on castors	Stainless steel	–	6004-0030
	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.
Installation services			
Unit installation	Unpacking and setting up of unit, connecting to existing connections, and checking function	13, 18	DL10-0100
Unit instructions	Unit function instructions for operation and programming of the controller	18	DL10-0500
Preventive maintenance			
Maintenance	Functional testing of all electrical and mechanical components, short calibration, documentation in the maintenance schedule	14, 18	DL20-0200
Calibration services			
Measurement of air exchange rate	including certificate (in accordance with ASTM D5374)	14, 16, 17, 18	DL33-0000
Temperature calibration	Expansion – including certificate, each additional measuring point in center of chamber at specified test temperature	14, 16, 17, 18	DL30-0102
	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, 18 measuring points	Temperature measurement with 18 measuring points at a specified test temperature, including certificate	14, 16, 17, 18	DL30-0118
Temperature measurement, 27 measuring points	Temperature measurement with 27 measuring points at a specified test temperature, including certificate	14, 16, 17, 18	DL30-0127
Temperature measurement, 9 measuring points	Temperature measurement with 9 measuring points at a specified test temperature, including certificate	14, 16, 17, 18	DL30-0109
Validation services			
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder	15, 18	DL40-0100
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder	15, 18	DL44-0500
Warranty service			
Warranty extension from 2 to 3 years	The warranty is extended from 2 to 3 years from the delivery date, wear parts are excluded	–	DL00-6041
Warranty extension from 2 to 5 years	The warranty is extended from 2 to 5 years from the delivery date, wear parts are excluded	–	DL00-6042

* 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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