Model FD 115 | Drying and heating chambers Avantgarde.Line 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
- Up to 30% lower energy consumption compared to conventional units on the market
- 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
- Stackable
- Class 2 integrated independent adjustable temperature safety device (DIN 12880) with visual alarm
- Ergonomic handle design
- USB port for recording data

ORDERING INFORMATION

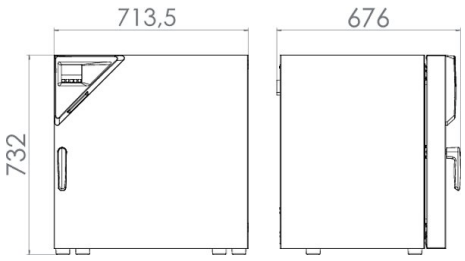
Interior volume [cu.ft.]	Voltage	Option model	Version	Art.-No.
Model FD 115				
4.1	230 V 1 ph 50/60 Hz	Standard	FD115-230V	9010-0305
	120 V 1 ph 60 Hz	Standard	FD115UL-120V	9010-0306

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
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) [ph]	1	1
Outer dimensions		
Width net [mm]	710	710
Height net [mm]	735	735
Depth net [mm]	605	605
Wall clearance back [mm]	160	160
Wall clearance sidewise [mm]	100	100
Doors		
Unit doors	1	1
Internal Dimensions		
Width [mm]	550	550
Height [mm]	550	550
Depth [mm]	385	385
Measures		
Interior volume [L]	116	116
Net weight of the unit (empty) [kg]	50	50
permitted load [kg]	150	150
Load per rack [kg]	30	30
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 AND ACCESSORIES

Designation	Description	*	Art.-No.
Access port with silicone plug	left		
	10 mm	01	8012-1276
	30 mm	01	8012-1016
	50 mm	01	8012-1020
	100 mm	01	8012-1027
	right		
	10 mm	01	8012-1269
	30 mm	01	8012-1015
	50 mm	01	8012-1019
	100 mm	01	8012-1028
	top		
	10 mm	01	8012-1263
	30 mm	01	8012-1364
	50 mm	01	8012-1380
	100 mm	01, 10	8012-1671
Analog output, 4 – 20 mA	for temperature values (output not adjustable)	02	8012-1624
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	–	8012-1116
Calibration certificate, temperature	for temperature, measurement in center of chamber at specified temperature	–	8012-1135
	temperature measurement incl. certificate and 27 measuring points at specified temperature	–	8012-1594
	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
Cart	Cart – stable cart, casters with locking brakes, dimensions: W 1,000 x D 800 x H 780 mm	–	9051-0018
Class 3.1 independent temperature safety device	with visual alarm (DIN 12880)	04, 12	8012-1643
Clock	battery-backed	–	8012-1641
Data Logger Kit	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
Data Logger Software	LOG ANALYZE software kit, configuration and evaluation software for all BINDER Data Logger Kits (incl. USB data cable)	19	8012-0821
Door gasket	made of FKM, silicone-free	03	8012-1650
Door lock	lockable door handle	–	8012-1665
Ethernet interface	for communication software	–	8012-0988
Gas-tight option model	Incl. additional measures for the greatest possible impermeability to gas; not in conjunction with access port or interior lighting option	09	8012-1685
Heating output, reinforced	For faster heating up time and improved recovery time; max. 300 °C; not in conjunction with load management option		
	230 V option model	–	8012-1057
HEPA air filter	On fresh air supply for unit; filter classification H14 (acc. to. EN 1822-1:2009, > 99.995% at 0.3 µm)	–	8012-1051
Inert gas connection	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
Inner chamber, reinforced	including 2 reinforced racks (max. total load 250 kg, max. load per rack 70 kg)	–	8012-1054
Instrument tray	with lid made from 18/8 stainless steel, stackable, dimensions: 230 x 133 x 45 mm		
	small	–	4022-0123
	with lid made from 18/8 stainless steel, stackable, dimensions: 315 x 215 x 60 mm		
	large	–	4022-0124
Interior lighting	with 15 W light bulb		
	120 V option model	–	8012-1632
	230 V option model	–	8012-1628

* Notes › See last page

Designation	Description	*	Art.-No.
Measurement of air exchange rate	in accordance with ASTM D5374, definition and protocol according to ambient temperature	–	8012-1195
Overheating alarm	audible, can be switched off, adjustable limit on the independent temperature safety device	–	8012-1636
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	–	1002-0016
Pt 100 temperature sensor	additional flexible Pt 100, interior, for displaying the temperature on the unit display	–	8012-1620
Rack	chrome plated	–	6004-0167
	stainless steel	–	6004-0151
Rack, heavy load	Stainless steel (1.4301/AISI 304), max. load per rack 70 kg, max. total load 150 kg	–	6004-0199
Rubber pads	set of 4 anti-slip feet, for safe stacking of unit	10	8012-0001
Shelf, perforated	stainless steel		
	Stainless steel	–	6004-0183
Software	APT-COM™ communications software		
	version 2 to 3, GLP edition	19	9053-0016
	version 3, BASIC edition	19	9053-0014
	version 3, GLP edition	19	9053-0015
	version 3, STANDARD edition	19	9053-0013
	APT-COM™ communications software, price: for free		
	version 3, GLP DEMO Edition	19	9053-0008
Viewing window and interior lighting	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

* Notes › See last page

SERVICES

Designation	Description	*	Art.-No.
Installation services			
Data Logger Kit installation service	unit function instructions for operation and programming of the controller	18	DL100400
Installation	and set up of unit at operating location, connect to existing connections	13, 18	DL100100
Preventive maintenance			
Preventive maintenance	Execution of equipment inspection according to maintenance plan	14, 18	DL200200
Calibration services			
Calibration temperature	including certificate, one measuring point in center of chamber at specified temperature	14, 16, 17, 18	DL300101
Measurement of air exchange rate	including certificate (in accordance with ASTM D5374)	14, 16, 17, 18	DL330000
Temperature measurement 18 measuring points	including certificate, 18 measuring points at specified temperature	14, 16, 17, 18	DL300118
Temperature measurement 27 measuring points	including certificate, 27 measuring points at specified temperature	14, 16, 17, 18	DL300127
Temperature measurement 9 measuring points	including certificate, 9 measuring points at specified temperature	14, 16, 17, 18	DL300109
Validation services			
Execution of IQ/OQ	in accordance with qualification folder	15, 18, 20	DL400100
Execution of IQ/OQ/PQ	in accordance with customer's requirement, price: on request	15, 18	DL440500
Qualification folder IQ/OQ	supporting documents for validation performed by customer, consisting of: IQ/OQ checklists, unit schematics, QM certificate in accordance with ISO 9001	15, 18, 20	8012-0792

* Notes › See last page

Designation	Description	*	Art.-No.
Qualification folder IQ/OQ/PQ	supporting documents for validation performed by customer, in accordance with customer's requirement, extension of Qualification folder IQ/OQ by chapter PQ	15, 18	8012-0943
Warranty service			
Extension of the warranty from 2 to 3 years	beginning with the date of delivery, wearing parts are not included	–	DL003041
Extension of the warranty from 2 to 5 years	beginning with the date of delivery, wearing parts are not included	–	DL003042

* 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.
06 Heating-up time may increase as a result of the lower heat conductivity.
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.
20 When ordering IQ/OQ qualification folders and associated IQ/OQ execution on one order, we offer a 15 % discount for both items.
When ordering IQ/OQ/PQ qualification folders and associated IQ/OQ/PQ execution on one order, we offer a 15 % discount for the item of the IQ/OQ/PQ folder.