Model FED 115 | Drying and heating chambers with forced convection and enhanced timer functions

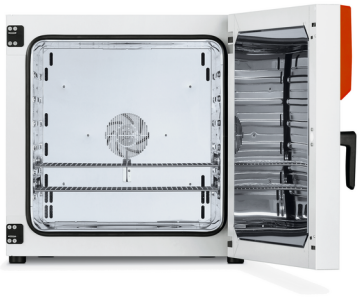
BINDER heating chambers of the FED Avantgarde.Line series provide almost unlimited capacity and are particularly adaptable. With advanced timing functions and a controllable fan, temperature and convection conditions are easily controlled.

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



Model 115

IMPORTANT FEATURES

- Temperature range: +10°C above ambient temperature to +300 °C
- Up to 30% lower energy consumption compared to conventional units on the market
- High temperature accuracy thanks to APT.line™ technology
- Adjustable fan speed
- Controller with LCD display and enhanced time functions
- 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
- Ethernet interface
- USB port for recording data

ORDERING INFORMATION

Interior volume [L]	Power supply - unit fuse	Plug*	Version	Model version	Art.-No.
Model FED 115					
116	230 V 1~ 50/60 Hz -6,3 A	CEE 7/7	Standard	FED115-230V	9010-0293
	120 V 1~ 60 Hz -12,5 A	NEMA 5-15	Standard	FED115UL-120V	9010-0294

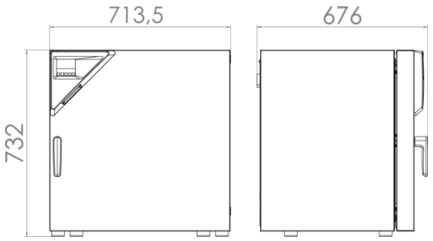
TECHNICAL DATA

Data		
Article Number	9010-0293	9010-0294
Designation	FED115-230V	FED115UL-120V
Option model	Standard	Standard
Performance Data Temperature		
Temperature range	+10 °C above ambient temperature to 300 °C	+10 °C above ambient temperature to 300 °C
Temperature uniformity at 150°C	1.2 ± K	1.2 ± K
Temperature fluctuation at 150°C	0.3 ± K	0.3 ± K
Heating up time to 150°C	18 min	18 min
Recovery time after door was opened for 30 s at 150°C	4 min	4 min
Air change data		
Air change rate at 100°C	32 x/h	32 x/h
Electrical data		
Rated Voltage	230 V	120 V
Power frequency	50/60 Hz	60 Hz
Nominal power	1,3 kW	1,4 kW
Unit fuse	6,3 A	12,5 A
Phase (Nominal voltage)	1~	1~
Dimensions and weights		
Interior volume	116 L	116 L
Net weight of the unit (empty)	54 kg	54 kg
Load per rack	30 kg	30 kg
Permitted load	150 kg	150 kg
Wall clearance back	160 mm	160 mm
Wall clearance sidewise	100 mm	100 mm
Housing dimensions not incl. fittings and connections		
Width net	710 mm	710 mm
Height net	705 mm	705 mm
Depth net	605 mm	605 mm
Internal Dimensions		

Interior width	550 mm	550 mm
Interior height	550 mm	550 mm
Interior depth	385 mm	385 mm
Unit doors	1	1
Environment-specific data		
Sound-pressure level	43 dB(A)	43 dB(A)
Energy consumption at 100°C	215 Wh/h	215 Wh/h
Energy consumption at 150°C	340 Wh/h	340 Wh/h
Fixtures		
Number of shelves (std./max.)	2/5	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	FED 115	*	Art.-No.
Access port with silicone plug	left			
	10 mm	•	01	8012-1278
	30 mm	•	01	8012-1655
	50 mm	•	01	8012-1657
	100 mm	•	01	8012-1669
	right			
	10 mm	•	01	8012-1271
	30 mm	•	01	8012-1654
	50 mm	•	01	8012-1656
	100 mm	•	01	8012-1670

Designation	Description	FED 115	*	Art.-No.
	top			
	10 mm	•	01	8012-1264
	30 mm	•	01	8012-1365
	50 mm	•	01	8012-1381
	100 mm	•	01	8012-1672
Alarm function for overheating	switchable acoustic alarm, with adjustable limit value on the independent temperature safety device. Not in combination with the following option: Door with window	•	-	8012-1637
Analog output 4-20 mA	for temperature values (output not adjustable)	•	02	8012-1625
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	•	-	8012-1118
Calibration certificate, temperature	for temperature, measurement in center of chamber at specified temperature	•	-	8012-1137
	temperature measurement incl. certificate, 9 measuring points at specified temperature	•	-	8012-1554
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	•	-	8012-1575
	temperature measurement incl. certificate and 27 measuring points at specified temperature	•	-	8012-1596
Class 3.1 independent temperature safety device	with visual alarm (DIN 12880)	•	-	8012-1644
Clock	battery-backed	•	-	8012-1642
Door gasket	made of FKM, silicone-free	•	-	8012-1651
Door lock	lockable door handle	•	-	8012-1666
Gas-tight option model	Incl. additional measures for the greatest possible impermeability to gas; not in conjunction with access port or interior lighting option	•	-	8012-1686
Heating output, reinforced	for faster heating up time and improved recovery time; max. 300°C			
	230 V option model	•	-	8012-1699
HEPA air filter	On fresh air supply for unit; filter classification H14 (acc. to. EN 1822-1:2009, > 99.995% at 0.3 µm); not in conjunction with reinforced heating output, reinforced fan	•	-	8012-1696
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	•	-	8012-1692
Inner chamber, reinforced	max. total load 170 kg	•	-	8012-1714
Interior lighting	with 25 W light bulb			
	120 V option model	•	-	8012-1633
	with 27 W light bulb			

Designation	Description	FED 115	*	Art.-No.
	230/240 V option model	•	-	8012-1629
Measurement of air exchange rate	in accordance with ASTM D5374, definition and protocol according to ambient temperature	•	-	8012-1197
Pt 100 temperature sensor	additional flexible Pt 100, interior, for displaying the temperature on the unit display	•	-	8012-1621
Viewing window and interior lighting	Viewing window (triple-glazed insulating glass) 370 x 370 mm in the door and interior lighting 15 W. Not in combination with the following option: Alarm function for overheating			
	120 V option model	•	-	8012-1707
	230 V option model	•	-	8012-1705

ACCESSORIES

Designation	Description	FED 115	*	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
Qualification documents	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
	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
Rack	max. load per rack 30 kg			
	chrome plated	•	-	8012-2040
	stainless steel	•	-	8012-2168
Rubber pads	set anti-slip feet	•	-	8012-2030

Designation	Description	FED 115	*	Art.-No.
Shelf, perforated	max. load per rack 30 kg			
	Stainless steel	•	-	8012-2176
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			
Calibration certificate, temperature	Calibration of one (1) test temperature specified by the user in center of chamber, including certificate	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	05	DL30-0102
Measurement of air exchange rate	including certificate (in accordance with ASTM D5374)	05	DL33-0000
Temperature measurement, 9 measuring points	Temperature measurement with 9 measuring points with a set value specified by the user, including certificate	05	DL30-0109
Temperature measurement, 18 measuring points	Temperature measurement with 18 measuring points with a set value specified by the user, including certificate	05	DL30-0118
Temperature measurement, 27 measuring points	Temperature measurement with 27 measuring points with a set value specified by the user, including certificate	05	DL30-0127
Installation services			
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	DL10-0160
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming	05	DL10-0540
Maintenance contracts			
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	DL20-0720
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
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
Maintenance services			
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	DL20-0602
Validation services			

Designation	Description	*	Art.-No.
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
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

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.

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).

BINDER GmbH
Tuttlingen, Germany
TEL +49 7462 2005 0
info@binder-world.com
www.binder-world.com

BINDER Inc.
Bohemia, NY, USA
TEL +1 631 224 4340
usa@binder-world.com
www.binder-world.us

BINDER Environmental Testing Equipment (Shanghai) Co., Ltd.
Shanghai, P.R. China
TEL +86 21 685 808 25
china@binder-world.com
www.binder-world.com