

# Model FP 115 | Drying and heating chambers with forced convection and program functions

A BINDER material test chamber with mechanical convection of the FP series provides reliably short drying times and particularly fast heating – even for chambers under full loads.

## BENEFITS

- Uniform drying conditions thanks to APT.line™ technology
- Identical test conditions throughout the chamber interior independent of sample size and quantity
- Outstanding thermal insulation saves operation costs
- Advanced programming options



Model 115



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## MAIN FEATURES

- Temperature range: room temperature plus 5 °C to 300 °C
- APT.line™ preheating chamber technology
- Adjustable fan speed
- Adjustable exhaust air flap
- Controller with time-segment and real-time programming
- 2 chrome-plated racks
- Class 2 independent adjustable temperature safety device (DIN 12880) with visual alarm
- Computer interface: RS 422

## ORDERING INFORMATION

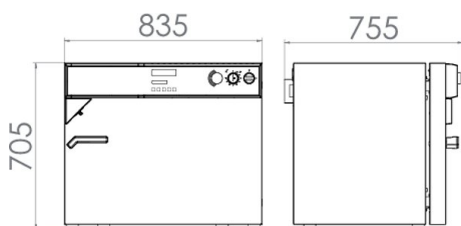
Interior volume [L]	Voltage	Option model	Version	Art.-No.
<b>Model FP 115</b>				
115	230 V 1~ ph 50/60 Hz	Standard	FP115-230V	9010-0255
	120 V 1~ ph 60 Hz	Standard	FP115UL-120V	9010-0262

## TECHNICAL DATA

Description	FP115-230V <sup>1</sup>	FP115UL-120V <sup>1</sup>
Article Number	9010-0255	9010-0262
<b>Performance Data Temperature</b>		
Temperature range 5 °C above ambient temperature to [°C]	300	300
Temperature variation at 150 °C [± K]	1.8	1.8
Temperature fluctuation at 150 °C [± K]	0.3	0.3
Heating-up time to 150 °C [min]	30	30
Recovery time after 30 seconds door open at 150 °C [min]	8	8
<b>Air change data</b>		
Air change (approx.) at 150 °C [x/h]	32	32
<b>Electrical data</b>		
Rated Voltage [V]	230	120
Power frequency [Hz]	50/60	60
Nominal power [kW]	1.6	1.6
Unit fuse [A]	10	16
Phase (Nominal voltage)	1~	1~
<b>Internal Dimensions</b>		
Depth [mm]	410	410
Height [mm]	480	480
Width [mm]	600	600
<b>Housing dimensions not incl. fittings and connections</b>		
Width net [mm]	835	835
Height net [mm]	705	705
Depth net [mm]	645	645
<b>Measures</b>		
Wall clearance back [mm]	160	160
Wall clearance sidewise [mm]	100	100
Interior volume [L]	115	115
Net weight of the unit (empty) [kg]	62	62
permitted load [kg]	50	50
Load per rack [kg]	20	20
<b>Environment-specific data</b>		
Energy consumption at 150 °C [Wh/h]	544	544
<b>Fixtures</b>		
Number of shelves (std./max.)	2/6	2/6

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 AND ACCESSORIES

Designation	Description	*	Art.-No.
	back		
	10 mm	01	8012-1286
	30 mm	01	8012-1370
	50 mm	01	8012-1386
	left		
	10 mm	01	8012-1279
	30 mm	01	8012-1362
	50 mm	01	8012-1378
	100 mm	01, 11	8012-1510
Access port with silicone plug	right		
	10 mm	01	8012-1272
	30 mm	01	8012-1357
	50 mm	01	8012-1374
	100 mm	01, 11	8012-1507
	top		
	10 mm	01	8012-1265
	30 mm	01	8012-1366
	50 mm	01	8012-1382
	100 mm	01, 10	8012-1389
Analog output 4-20 mA	for temperature values (output not adjustable)	02	8012-0481
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
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	-	8012-1119
	for temperature, measurement in center of chamber at specified temperature	-	8012-1138
Calibration certificate, temperature	temperature measurement incl. certificate and 27 measuring points at specified temperature	-	8012-1597
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	-	8012-1576
	temperature measurement incl. certificate, 9 measuring points at specified temperature	-	8012-1555
Class 3.1 independent temperature safety device	with visual alarm (DIN 12880)	04, 12	8012-1149
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	8012-0495
Door lock	lockable door handle	-	8012-1249
Fan, reinforced	to increase air change rates 230 V option model	-	8012-0198
Gas-tight option model	incl. additional measures for gas containment	09	8012-0182
HEPA air filter	On fresh air supply for unit; filter classification H14 (acc. to. EN 1822-1:2009, > 99.995% at 0.3 µm)	-	8012-1169
Inert gas connection	with gas inlet and outlet, Ø 10 mm, incl. additional measures to provide the greatest possible impermeability to gas	-	8012-0841
Instrument tray	with lid made from 18/8 stainless steel, stackable, dimensions: 230 x 133 x 45 mm	-	4022-0123
	with lid made from 18/8 stainless steel, stackable, dimensions: 315 x 215 x 60 mm	-	4022-0124
Measurement of air exchange rate	in accordance with ASTM D5374, definition and protocol according to ambient temperature	-	8012-1198

\* Notes > See last page

Designation	Description	*	Art.-No.
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	-	8012-0504
Rack	chrome plated	-	6004-0003
	stainless steel	-	6004-0008
Rack accessories	fasteners (1 set of 4) for additional security of racks	-	8012-0531
Rubber pads	set anti-slip feet	-	8012-1887
Shelf, perforated	Stainless steel	-	6004-0030
Table on castors	stable cart, casters with locking brakes, dimensions: W 1,000 x D 800 x H 780 mm	-	9051-0018
Viewing window and interior lighting	viewing window in door, 320 x 260 mm, and 15 W interior lighting		
	120 V option model	-	8012-0238
	230 V option model	-	8012-0056
Zero voltage relay contacts	for controlling 3 relay contacts via program regulators, accessible via 6-pin DIN socket (max. 24 V - 2.5 A)		
	120 V option model	-	8012-0472
	230 V option model	-	8012-0471

\* Notes › See last page

## SERVICES

Designation	Description	*	Art.-No.
<b>Installation services</b>			
Installation	and set up of unit at operating location, connect to existing connections	13, 18	DL10-0100
Instruction	unit function instructions for operation and programming of the controller	18	DL10-0500
<b>Preventive maintenance</b>			
Preventive maintenance	Executive of equipment inspection according to maintenance plan	14, 18	DL20-0200
<b>Calibration services</b>			
Calibration temperature incl. certificate	including certificate, one measuring point in center of chamber at specified temperature	14, 16, 17, 18	DL30-0101
Measurement of air exchange rate	including certificate (in accordance with ASTM D5374)	14, 16, 17, 18	DL33-0000
Temperature measurement 18 measuring points	including certificate, 18 measuring points at specified temperature	14, 16, 17, 18	DL30-0118
Temperature measurement 27 measuring points	including certificate, 27 measuring points at specified temperature	14, 16, 17, 18	DL30-0127
Temperature measurement 9 measuring points	including certificate, 9 measuring points at specified temperature	14, 16, 17, 18	DL30-0109
<b>Validation services</b>			
Execution of IQ/OQ	in accordance with qualification folder	15, 18, 20	DL41-0200
Execution of IQ/OQ/PQ	in accordance with customer's requirement, price: on request	15, 18	DL44-0500
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	8012-0856
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	8012-0945
<b>Warranty service</b>			
Extension of the warranty from 2 to 3 years	beginning with the date of delivery, wearing parts are not included	-	DL00-5041
Extension of the warranty from 2 to 5 years	beginning with the date of delivery, wearing parts are not included	-	DL00-5042

\* Notes › See last page



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