

# Model FP 260 | 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**

- High temperature accuracy thanks to APT.line™ technology
- · User-friendly controller with large display
- · Computer interface: Ethernet
- Class 2 independent adjustable temperature safety device (DIN 1288o) and class 3.1 independent temperature safety device (DIN 1288o) with visual/acoustic alarm available for selection on the controller







Model 260

## **IMPORTANT FEATURES**

- Temperature range: +10°C above ambient temperature up to +300°C
- High temperature accuracy thanks to APT.line™ technology
- Adjustable fan speed
- Controller with interval and real-time programming
- Electromechanical control of the exhaust air flap
- 2 chrome-plated racks
- Units up to 115 liters are stackable

- Class 2 independent adjustable temperature safety device (DIN 12880) and class 3.1 independent temperature safety device (DIN 12880) with visual/ acoustic alarm available for selection on the controller
- Ergonomic handle design
- · Computer interface: Ethernet
- Internal data logger, measured values can be read out in open format via USB

#### ORDERING INFORMATION

Interior volume		Power supply - unit fuse	Plug*	Version	Model version	ArtNo.		
[L]	[L]							
Model FP 260	Model FP 260							
259		230 V 1~ 50/60 Hz -16,0 A	CEE 7/7	Standard	FP260-230V	9010-0365		
	259	240 V 3~ 60 Hz -16,0 A	NEMA L21-20	Standard	FP260UL-120V	9010-0369		



# TECHNICAL DATA

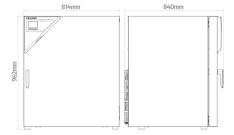
TECHNICAL DATA					
Data					
Designation	FP260-230V	FP260UL-120V			
Article Number	9010-0365	9010-0369			
Option model	Standard	Standard			
Performance Data Temperature					
Temperature range	+10 °C above ambient temperature to 300 °C	+10 °C above ambient temperature to 300 °C			
Temperature uniformity at 150°C	1.7 ± K	1.7 ± K			
Temperature fluctuation at 150°C	0.4 ± K	0.4 ± K			
Heating up time to 150°C	19 min	19 min			
Recovery time after door was opened for 30 s at 150°C	6 min	6 min			
Air change data					
Air change rate at 100°C	9 x/h	9 x/h			
Electrical data					
Rated Voltage	230 V	240 V			
Power frequency	50/60 Hz	60 Hz			
Nominal power	2,5 kW	2,5 kW			
Unit fuse	16,0 A	16,0 A			
Phase (Nominal voltage)	1~	3~			
Dimensions and weights					
Interior volume	259 L	259 L			
Net weight of the unit (empty)	82 kg	82 kg			
Load per rack	40 kg	40 kg			
Permitted load	270 kg	270 kg			
Wall clearance back	160 mm	160 mm			
Wall clearance sidewise	100 mm	100 mm			
Housing dimensions not incl. fittings and connections					
Width net	810 mm	810 mm			
Height net	962 mm	962 mm			
Depth net	786 mm	786 mm			
Internal Dimensions					



Interior width	650 mm	650 mm				
Interior height	780 mm	780 mm				
Interior depth	512 mm	512 mm				
Unit doors	1	1				
Environment-specific data	Environment-specific data					
Sound-pressure level	43 dB(A)	43 dB(A)				
Energy consumption at 100°C	275 Wh/h	275 Wh/h				
Energy consumption at 150°C	465 Wh/h	465 Wh/h				
Fixtures						
Number of shelves (std./max.)	2/8	2/8				

All technical data is specified for unloaded units with standard equipment at an ambient temperature of  $\pm 20^{\circ}$  C  $\pm 3^{\circ}$ C and a power supply voltage fluctuation of  $\pm 10^{\circ}$  %. 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	FP 260	*	ArtNo.
	left			
	10 mm	•	01	8012-2198
	30 mm	•	01	8012-2210
	50 mm	•	01	8012-2213
Access port with silicone plug	100 mm	•	01	8012-2207
	right			
	10 mm	•	01	8012-2206
	30 mm	•	01	8012-2212
	50 mm	•	01	8012-2215



Designation	Description	FP 260	*	ArtNo.
	100 mm	•	01	8012-2209
	top			
	10 mm	•	01	8012-2199
	30 mm	•	01	8012-2211
	50 mm	•	01	8012-2214
	100 mm	•	01	8012-2208
Analog output 4-20 mA	for temperature values (output not adjustable)	•	02	8012-2188
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	•	-	8012-2231
	for temperature, measurement in center of chamber at specified temperature	•	-	8012-2227
Calibration certificate,	temperature measurement incl. certificate, 9 measuring points at specified temperature	•	-	8012-2230
temperature	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	•	-	8012-2228
	temperature measurement incl. certificate and 27 measuring points at specified temperature	•	-	8012-2229
Door gasket	made of FKM, silicone-free	•	-	8012-2235
Door lock	lockable door handle	•	-	8012-2237
Gas-tight option model	Incl. additional measures for the greatest possible impermeability to gas; not in conjunction with access port or interior lighting option	•	-	8012-2218
HEPA air filter	On fresh air supply for unit; filter classification H14 (acc. to. EN 1822-1:2009, > 99.995% at 0.3 $\mu$ m); not in conjunction with reinforced heating output, reinforced fan	•	-	8012-2221
Inert gas connection	With gas inlet and outlet, $\emptyset$ 10 mm, incl. additional measures for the greatest possible impermeability to gas; not in conjunction with access port or interior lighting option	•	-	8012-2197
Inner chamber, reinforced	max. total load 300 kg	•	-	8012-2225
Interior lighting	with 27 W light bulb			
Interior lighting	230/240 V option model	•	-	8012-2190
Measurement of air exchange rate	in accordance with ASTM D5374, definition and protocol according to ambient temperature	•	-	8012-2232
Pt 100 temperature sensor	additional flexible Pt 100, interior, for displaying the temperature on the unit display	•	-	8012-2193

## ACCESSORIES

Designation	Description	FP 260	*	ArtNo.
APT-COM™ 4	convenient unit and user management built on the BASIC edition. Suitable for networking up to 100 units.			



Designation	Description	FP 260	*	ArtNo.
	version 4, PROFESSIONAL edition	•	-	9053-0040
	for simple logging and documentation requirements with up to 5 networked units.			
	version 4, BASIC edition	•	-	9053-0039
	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
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	•	-	8012-2250
	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, ${\rm CO_2}$ , ${\rm O_2}$ – or pressure, depending on unit			
	Digital in PDF format	•	-	7057-0005
	Hard copy inside folder		-	7007-0005
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 <sub>2</sub> , O <sub>2</sub> , pressure, depending on unit			
	Digital in PDF format	•	-	7057-0001
	Hard copy inside folder	•	-	7007-0001
	max. load per rack 40 kg			
Rack	chrome plated	•	-	8012-2042
	stainless steel	•	-	8012-2169
	max. load per rack 70 kg			
Rack, heavy load	Stainless steel	•	-	8012-2184
Rack accessories	fasteners (1 set of 4) for additional security of racks		-	8012-0531
Rubber pads set anti-slip feet		•	-	8012-2030
Chalf manfarat-	max. load per rack 40 kg			
Shelf, perforated	Stainless steel	•	-	8012-2177
Table on castors	stable cart, casters with locking brakes, dimensions: W 1,300 x D 800 x H 780 mm	•	-	9051-0019

# **SERVICES**

Designation	Description	*	ArtNo.
Calibration services			
Measurement of air exchange rate	including certificate (in accordance with ASTM D5374)	_	DL33-0000



Designation	Description	*	ArtNo.		
	Calibration of one (1) test temperature specified by the user in center of chamber, including certificate Travel to be quoted separate.	-	DL30-0120		
Temperature calibration	Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate Travel to be quoted separate.	-	DL30-0102		
Temperature measurement, 9 measuring points	Temperature measurement with 9 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 3 shelves are required.	-	DL30-0109		
Temperature measurement, 18 measuring points	Temperature measurement with 18 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 2 shelves are required.	-	DL30-0118		
Temperature measurement, 27 measuring points	Temperature measurement with 27 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 3 shelves are required.	-	DL30-0127		
Installation services					
Unit installation	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) Travel to be quoted as separate.	-	DL10-0100		
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming. Travel to be quoted as separate Limited to 3 hours.	-	DL10-0500		
Maintenance services					
BRONZE 3-year maintenance contract	Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate. 10% Discount on Spare Parts and Labor for any additional Services needed Wear + tear parts to be purchased or billed to customer. Travel to be quoted as separate.	-	DL20-0720		
GOLD 3-year maintenance contract	Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate of Temperature. 25% Discount on Spare Parts and Labor for any additional Services needed. One additional courtesy visit per year can be used for service visit or operator. Wear + tear parts to be purchased or billed to customer. Travel to be quoted separate.	-	DL20-0910		
Preventive maintenance	One-off maintenance service in accordance with maintenance schedule. Visual inspection of mechanical and electrical components, testing of all key functions. Checking a test temperature specified by the user in center of usable space without certificate. Wear + tear parts need to be purchased or billed to customer. Travel to be quoted as separate.	-	DL20-0602		
SILVER 3-year maintenance contract	Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate 15% Discount on Spare Parts and Labor for any additional Services needed One additional courtesy visit per year can be used for service visit or operator training. Wear + tear parts to be purchased or billed to customer. Travel to be quoted separate.	-	DL20-0810		
Validation services					
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder. Travel to be quoted separate.	-	DL41-0200		
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder. Travel to be quoted separate.	_	DL44-0500		
Warranty service					
1-year warranty extension	The warranty is extended by 1 year from the delivery date, wear parts are excluded	-	DL50-0010		



#### **NOTES**

- O1 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.

# **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

# BINDER Asia Pacific (Hong Kong) Ltd.

Kowloon, Hong Kong, P.R. China TEL +852 39070500 asia@binder-world.com www.binder-world.com