

Model FP 56 | 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 12880) and class 3.1 independent temperature safety device (DIN 12880) with visual/acoustic alarm available for selection on the controller



Model 56



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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

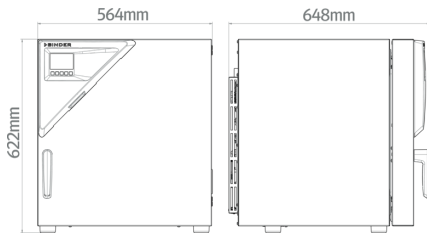
ORDERING INFORMATION

Designation	Option model	Interior volume	Rated Voltage	Power frequency	Article Number
FP056-230V	Standard	60 L	230 V	50/60 Hz	9010-0363
FP056UL-120V	Standard	60 L	120 V	60 Hz	9010-0367

TECHNICAL DATA

Data		
Designation	FP056-230V	FP056UL-120V
Article Number	9010-0363	9010-0367
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	1.4 ± K	1.4 ± K
Temperature fluctuation at 150°C	0.4 ± K	0.4 ± K
Heating up time to 150°C	15 min	15 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	80 x/h	80 x/h
Electrical data		
Rated Voltage	230 V	120 V
Power frequency	50/60 Hz	60 Hz
Nominal power	1,2 kW	1,2 kW
Unit fuse	10,0 A	16,0 A
Phase (Nominal voltage)	1~	1~
Measures		
Interior volume	60 L	60 L
Net weight of the unit (empty)	41 kg	41 kg
Load per rack	30 kg	30 kg
Permitted load	70 kg	70 kg
Wall clearance back	160 mm	160 mm
Wall clearance sidewise	100 mm	100 mm
Housing dimensions not incl. fittings and connections		
Width net	560 mm	560 mm
Height net	622 mm	622 mm
Depth net	596 mm	596 mm
Internal Dimensions		
Interior width	400 mm	400 mm
Interior height	440 mm	440 mm
Interior depth	342 mm	342 mm
Unit doors	1	1
Environment-specific data		
Sound-pressure level	43 dB(A)	43 dB(A)
Energy consumption at 100°C	180 Wh/h	180 Wh/h
Energy consumption at 150°C	290 Wh/h	290 Wh/h
Fixtures		
Number of shelves (std./max.)	2/4	2/4

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	Option model	*	Article Number
Access port with silicone plug	left	10 mm	01	8012-2198
		30 mm		8012-2210
		50 mm		8012-2213
	right	10 mm		8012-2206
		30 mm		8012-2212
		50 mm		8012-2215
	top	10 mm		8012-2199
		30 mm		8012-2211
		50 mm		8012-2214
		100 mm		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
Calibration certificate, temperature	for temperature, measurement in center of chamber at specified temperature			8012-2227
	temperature measurement incl. certificate, 9 measuring points at specified temperature			8012-2230
	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			8012-2233
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		0	8012-2216
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			8012-2219
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			8012-2195
Inner chamber, reinforced	max. total load 85 kg			8012-2223
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	Option model	*	Article Number
APT-COM™ 4 BASIC-Edition	for simple logging and documentation requirements with up to 5 networked units.	version 4, BASIC edition	0	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

Designation	Description	Option model	* Article Number
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
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		chrome plated	8012-2038
		stainless steel	8012-2085
Rack accessories	fasteners (1 set of 4) for additional security of racks		8012-0531
Rubber pads	set anti-slip feet		8012-2030
Shelf, perforated		Stainless steel	8012-2175
Table on castors	stable cart, casters with locking brakes, dimensions: W 1,000 x D 800 x H 780 mm		9051-0018
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg		8012-2250

SERVICES

Designation	Description	* Article Number
1-year warranty extension	The warranty is extended by 1 year from the delivery date, wear parts are excluded	DL50-0010
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	DL20-0710
Calibration certificate, temperature	Calibration of one (1) test temperature specified by the user in center of chamber, including certificate	DL30-0101
	Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate	DL30-0102
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder	DL41-0200
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder	DL44-0500
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	DL20-0910
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	DL20-0200
Measurement of air exchange rate	including certificate (in accordance with ASTM D5374)	DL33-0000
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	DL20-0810
Temperature measurement, 9 measuring points	Temperature measurement with 9 measuring points with a set value specified by the user, including certificate	DL30-0109
Temperature measurement, 18 measuring points	Temperature measurement with 18 measuring points with a set value specified by the user, including certificate	DL30-0118
Temperature measurement, 27 measuring points	Temperature measurement with 27 measuring points with a set value specified by the user, including certificate	DL30-0127
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)	DL10-0100
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming	05 DL10-0500

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).

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