

Model FED 56 | 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 56



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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
- Adjustable fan speed
- Controller with LCD display and enhanced time functions
- Electromechanical control of the exhaust air flap
- 2 chrome-plated racks
- Units up to 115 liters are stackable
- Class 2 integrated independent adjustable temperature safety device (DIN 12880) with visual alarm
- Ergonomic handle design
- Ethernet interface
- USB port for recording data

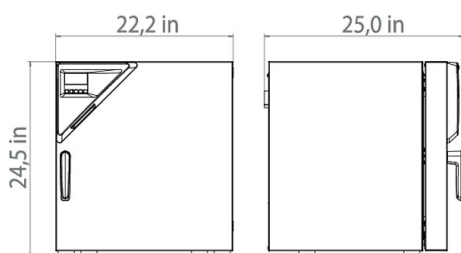
ORDERING INFORMATION

Interior volume [cu.ft.]	Voltage	Option model	Version	Art.-No.
2.1	230 V 1~ 50/60 Hz	Standard	FED056-230V	9010-0295
	120 V 1~ 60 Hz	Standard	FED056UL-120V	9010-0296

TECHNICAL DATA

Description	FED056-230V ¹	FED056UL-120V ¹
Article Number	9010-0295	9010-0296
Performance Data Temperature		
Temperature range +10 °C above ambient temperature to [°C]	300	300
Temperature variation at 150 °C [± K]	1.4	1.4
Temperature fluctuation at 150 °C [± K]	0.3	0.3
Heating-up time to 150 °C [min]	15	15
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]	1.1	1.2
Unit fuse [A]	6.3	12.5
Phase (Nominal voltage)	1~	1~
Measures		
Interior volume [cu.ft.]	2.1	2.1
Net weight of the unit (empty) [lbs]	90	90
Permitted load [lbs]	154	154
Load per rack [lbs]	66	66
Wall clearance back [in]	6.3	6.3
Wall clearance sidewise [in]	3.94	3.94
Internal Dimensions		
Width [in]	15.76	15.76
Height [in]	17.34	17.34
Depth [in]	13.59	13.59
Doors		
Unit doors	1	1
Housing dimensions not incl. fittings and connections		
Width net [in]	22.06	22.06
Height net [in]	24.63	24.63
Depth net [in]	22.26	22.26
Environment-specific data		
Energy consumption at 150 °C [Wh/h]	290	290
Sound-pressure level [dB(A)]	43	43
Fixtures		
Number of shelves (std./max.)	2/4	2/4

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

Designation	Description	*	Art.-No.
Calibration certificate, temperature	temperature measurement incl. certificate and 27 measuring points at specified temperature	-	8012-1596
	additional flexible Pt 100, interior, for displaying the temperature on the unit display	-	8012-1621
	battery-backed	-	8012-1642
	For faster heating up time and improved recovery time; max. 300 °C; not in conjunction with load management option 120/230 V option model	-	8012-1698
	for temperature values (output not adjustable)	02	8012-1625
	for temperature; for extending the measurement in center of chamber to include another test temperature	-	8012-1118
	in accordance with ASTM D5374, definition and protocol according to ambient temperature	-	8012-1197
	Incl. additional measures for the greatest possible impermeability to gas; not in conjunction with access port or interior lighting option	09	8012-1684
	left		
	10 mm	01	8012-1278
	30 mm	01	8012-1655
	50 mm	01	8012-1657
	lockable door handle	-	8012-1666
	made of FKM, silicone-free	03	8012-1649
	max. total load 85 kg	-	8012-1713
	Measurement in center of chamber at specified temperature	-	8012-1137
	On fresh air supply for unit; filter classification H14 (acc. to EN 1822-1:2009, > 99.995% at 0.3 µm)	-	8012-1695
	right		
	10 mm	01	8012-1271
	30 mm	01	8012-1654
	50 mm	01	8012-1656
	Switchable acoustic alarm, with adjustable limit value on the independent temperature safety device	-	8012-1637
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	-	8012-1575
temperature measurement incl. certificate, 9 measuring points at specified temperature	-	8012-1554	
top			
10 mm	01	8012-1264	
30 mm	01	8012-1365	
50 mm	01	8012-1381	
100 mm	01, 10	8012-1672	
viewing window (triple insulating glass) in door, 240 x 240 mm, and 15 W interior			
120 V option model	-	8012-1703	
230 V option model	-	8012-1701	
with 15 W light bulb			
120 V option model	-	8012-1633	
230/240 V option model	-	8012-1629	
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	-	8012-1690	
with visual alarm (DIN 12880)	04, 12	8012-1644	

* Notes › See last page

ACCESSORIES

Designation	Description	*	Art.-No.
Multi Management Software	Multi Management Software APT-COM™		
	version 4, BASIC edition	19	9053-0039
	version 4, GLP edition	19	9053-0042
	version 4, PROFESSIONAL edition	19	9053-0040

* Notes › See last page

Designation	Description	*	Art.-No.
	chrome plated	-	6004-0166
	Stainless steel	-	6004-0182
	stainless steel	-	6004-0150
	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-0016
	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
Options/Accessories	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
	LOG ANALYZE software kit, configuration and evaluation software for all BINDER Data Logger Kits (incl. USB data cable)	19	8012-0821
	set of 4 anti-slip feet, for safe stacking of units	-	8012-1887
	stable cart, casters with locking brakes, dimensions: W 1,000 x D 800 x H 780 mm	-	9051-0018
	Stainless steel, max. load per rack 50 kg	-	6004-0198
	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
	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

* Notes › See last page

SERVICES

Designation	Description	*	Art.-No.
Installation services			
Services	Unit function instructions for operation and programming of the controller	18	DL10-0500
	Unpacking and setting up of unit, connecting to existing connections, and checking function	13, 18	DL10-0100
Preventive maintenance			
Services	Executive of equipment inspection according to maintenance plan	14, 18	DL20-0200
Calibration services			
	Expansion – including certificate, each additional measuring point in center of chamber at specified test temperature	14, 16, 17, 18	DL30-0102
	including certificate (in accordance with ASTM D5374)	14, 16, 17, 18	DL33-0000
Services	Temperature calibration with 1 measuring point in center of chamber at a specified test temperature, including certificate	14, 16, 17, 18	DL30-0101
	Temperature measurement with 18 measuring points at a specified test temperature, including certificate	14, 16, 17, 18	DL30-0118
	Temperature measurement with 27 measuring points at a specified test temperature, including certificate	14, 16, 17, 18	DL30-0127
	Temperature measurement with 9 measuring points at a specified test temperature, including certificate	14, 16, 17, 18	DL30-0109
Validation services			
Services	Execution of IQ/OQ in accordance with qualification folder	15, 18	DL40-0100
	Execution of IQ/OQ/PQ in accordance with qualification folder	15, 18	DL44-0500
Warranty service			
Services	The warranty is extended from 2 to 3 years from the delivery date, wear parts are excluded	-	DL00-4041
	The warranty is extended from 2 to 5 years from the delivery date, wear parts are excluded	-	DL00-4042

* 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.
- 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.

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