

# Model ED 56 | Drying and heating chambers Avantgarde.Line with natural convection

## BENEFITS

- Excellent temporal and spatial temperature accuracy
- High energy efficiency
- USB connection for recording data
- Temperature range up to 300 °C



Model 56



Model 56

## MAIN FEATURES

- Temperature range: ambient temperature plus 5 °C to 300 °C
- High temperature accuracy thanks to APT.line™ technology
- Natural convection
- Controller with LCD display
- Electromechanical control of the exhaust air flap
- 2 chrome-plated racks
- Stackable
- Class 2 independent temperature safety device (DIN 12880) with visual temperature alarm
- Ergonomic handle design
- USB port for recording data

## ORDERING INFORMATION

Interior volume [L]	Voltage	Option model	Version	Art.-No.
Model ED 56				
57	230 V 1~ 50/60 Hz	Standard	ED056-230V	9010-0333
	120 V 1~ 60 Hz	Standard	ED056UL-120V	9010-0334

## TECHNICAL DATA

Description	ED056-230V <sup>1</sup>	ED056UL-120V <sup>1</sup>
Article Number	9010-0333	9010-0334
Performance Data Temperature		
Temperature range 5 °C above ambient temperature to [°C]	300	300
Temperature variation at 150 °C [± K]	2.5	2.5
Temperature fluctuation at 150 °C [± K]	0.5	0.5

<sup>1</sup> 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. All indications are average values, typical for units produced in series. We reserve the right to change technical specifications at any time.

Description	ED056-230V <sup>1</sup>	ED056UL-120V <sup>1</sup>
Article Number	9010-0333	9010-0334
Heating-up time to 150 °C [min]	55	55
Recovery time after 30 seconds door open at 150 °C [min]	20	20
Electrical data		
Rated Voltage [V]	230	120
Power frequency [Hz]	50/60	60
Nominal power [kW]	1.05	1.15
Unit fuse [A]	6.3	12.5
Phase (Nominal voltage)	1~	1~
Measures - Outer dimensions		
Width net [mm]	560	560
Height net [mm]	625	625
Depth net [mm]	565	565
Wall clearance back [mm]	160	160
Wall clearance sidewise [mm]	100	100
Measures - Doors		
Unit doors	1	1
Measures - Internal Dimensions		
Width [mm]	360	360
Height [mm]	420	420
Depth [mm]	380	380
Measures		
Interior volume [L]	57	57
Net weight of the unit (empty) [kg]	39	39
permitted load [kg]	70	70
Load per rack [kg]	30	30
Environment-specific data		
Energy consumption at 150 °C	180 Wh/h	180 Wh/h
Fixtures		
Number of shelves (std./max.)	2/4	2/4

<sup>1</sup> 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. All indications are average values, typical for units produced in series. We reserve the right to change technical specifications at any time.

## OPTIONS AND ACCESSORIES

Designation	Description	*	Art.-No.
Access port with silicone plug	10 mm, back	01	8012-0390
	10 mm, left	01	8012-0388
	10 mm, right	01	8012-0387
	10 mm, top	01	8012-0386
	30 mm, back	01	8012-0540
	30 mm, left	01	8012-1018
	30 mm, right	01	8012-1017
	30 mm, top	01	8012-0539
	50 mm, back	01	8012-0546
	50 mm, left	01	8012-1022
	50 mm, right	01	8012-1021
	50 mm, top	01	8012-0545
	100 mm, top	01, 10	8012-1029

\* Notes › See last page

Designation	Description	*	Art.-No.
Analog output, 4 – 20 mA	for temperature values (output not adjustable)	02	8012-0941
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	–	8012-0022
Calibration certificate, temperature	for temperature, measurement in center of chamber at specified temperature	–	8012-0030
	temperature measurement incl. certificate and 27 measuring points at specified temperature	–	8012-0921
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	–	8012-0918
	temperature measurement incl. certificate, 9 measuring points at specified temperature	–	8012-0915
Cart	Cart – stable cart, casters with locking brakes, dimensions: W 1,000 x D 800 x H 780 mm	–	9051-0018
Class 3.1 independent temperature safety device	with visual alarm (DIN 12880)	04, 12	8012-0985
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	8012-1008
Door lock	lockable door handle	–	8012-1025
Ethernet interface	for communication software	–	8012-0986
Instrument tray	with lid made from 18/8 stainless steel, stackable, dimensions: 230 x 133 x 45 mm small	–	4022-0123
	with lid made from 18/8 stainless steel, stackable, dimensions: 315 x 215 x 60 mm large	–	4022-0124
Interior lighting	with 15 W light bulb		
	120 V option model	–	8012-0971
	230 V option model	–	8012-0969
Measurement of air exchange rate	in accordance with ASTM D5374, definition and protocol according to ambient temperature	–	8012-0195
Overheating alarm	audible, can be switched off, adjustable limit on the independent temperature safety device	–	8012-0979
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	–	8012-0940
Rack	chrome plated	–	6004-0174
	stainless steel	–	6004-0158
Rack, heavy load	Stainless steel (1.4301/AISI 304), max. load per rack 50 kg, max. total load 70 kg	–	6004-0201
Rubber pads	set of 4 anti-slip feet, for safe stacking of unit	10	8012-0001
Shelf, perforated	stainless steel	–	6004-0190
Software	APT-COM™ communications software		
	version 2 to 3, GLP edition	19	9053-0016
	version 3, BASIC edition	19	9053-0014
	version 3, GLP edition	19	9053-0015
	version 3, STANDARD edition	19	9053-0013
	APT-COM™ communications software, price: for free		
	version 3, GLP DEMO Edition	19	9053-0008
Time	battery-backed	–	8012-0981
Viewing window and interior lighting	viewing window (triple insulating glass) in door, 240 x 240 mm, and 15 W interior		
	120 V option model	–	8012-1059
	230 V option model	–	8012-1058

\* Notes › See last page

## SERVICES

Designation	Description	*	Art.-No.
<b>Installation services</b>			
Data Logger Kit installation service	unit function instructions for operation and programming of the controller	18	DL100400
Installation	and set up of unit at operating location, connect to existing connections	13, 18	DL100100
<b>Preventive maintenance</b>			
Preventive maintenance	Executive of equipment inspection according to maintenance plan	14, 18	DL200200
<b>Calibration services</b>			
Data Logger Kit calibration service	including certificate, one measuring point in center of chamber at specified temperature	14, 16, 17, 18	DL300101
Measurement of air exchange rate	including certificate (in accordance with ASTM D5374)	14, 16, 17, 18	DL330000
Temperature measurement 18 measuring points	including certificate, 18 measuring points at specified temperature	14, 16, 17, 18	DL300118
Temperature measurement 27 measuring points	including certificate, 27 measuring points at specified temperature	14, 16, 17, 18	DL300127
Temperature measurement 9 measuring points	including certificate, 9 measuring points at specified temperature	14, 16, 17, 18	DL300109
<b>Validation services</b>			
Data Logger Kit validation service	in accordance with qualification folder	15, 18, 20	DL400100
Execution of IQ/OQ/PQ	in accordance with customer's requirement, price: on request	15, 18	DL440500
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	8012-0761
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	8012-0942
<b>Warranty service</b>			
Extension of the warranty from 2 to 3 years	beginning with the date of delivery, wearing parts are not included	–	DL002041
Extension of the warranty from 2 to 5 years	beginning with the date of delivery, wearing parts are not included	–	DL002042

\* 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.
- 06 Heating-up time may increase as a result of the lower heat conductivity.
- 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 (see the chapter on BINDER Service) 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.
- 20 When ordering IQ/OQ qualification folders and associated IQ/OQ execution on one order, we offer a 15 % discount for both items.  
When ordering IQ/OQ/PQ qualification folders and associated IQ/OQ/PQ execution on one order, we offer a 15 % discount for the item of the IQ/OQ/PQ folder.