

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

The strengths of a BINDER ED series drying chamber include routine drying and sterilization tasks up to 300 °C. Thanks to the natural convection, all thermal processes which use this drying chamber are highly efficient. The ED series ensures fast, uniform drying.

## 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



Model 56

## MAIN FEATURES

- Temperature range: +5 °C above ambient temperature to +300 °C
- Up to 30% lower energy consumption compared to conventional units on the market
- 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 integrated independent adjustable temperature safety device (DIN 12880) with visual alarm
- Ergonomic handle design
- USB port for recording data

## ORDERING INFORMATION

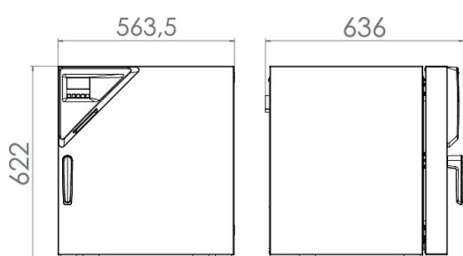
Interior volume [L]	Voltage	Option model	Version	Art.-No.
57	230 V 1~ ph 50/60 Hz	Standard	ED056-230V	9010-0333
	120 V 1~ ph 60 Hz	Standard	ED056UL-120V	9010-0334

## TECHNICAL DATA

Description	ED056-230V <sup>1</sup>	ED056UL-120V <sup>1</sup>
<b>Article Number</b>	<b>9010-0333</b>	<b>9010-0334</b>
<b>Performance Data Temperature</b>		
Temperature range +5 °C above ambient temperature to [°C]	300	300
Temperature variation at 150 °C [± K]	2.3	2.3
Temperature fluctuation at 150 °C [± K]	0.4	0.4
Heating-up time to 150 °C [min]	50	50
Recovery time after 30 seconds door open at 150 °C [min]	19	19
<b>Air change data</b>		
Air change (approx.) at 100 °C [x/h]	8	8
<b>Electrical data</b>		
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~
<b>Measures</b>		
Interior volume [L]	57	57
Net weight of the unit (empty) [kg]	42	42
Permitted load [kg]	70	70
Load per rack [kg]	30	30
Wall clearance back [mm]	160	160
Wall clearance sidewise [mm]	100	100
<b>Internal Dimensions</b>		
Width [mm]	360	360
Height [mm]	420	420
Depth [mm]	380	380
<b>Doors</b>		
Unit doors	1	1
<b>Housing dimensions not incl. fittings and connections</b>		
Width net [mm]	560	560
Height net [mm]	625	625
Depth net [mm]	565	565
<b>Environment-specific data</b>		
Energy consumption at 150 °C [Wh/h]	180	180
<b>Fixtures</b>		
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.

## DIMENSIONS incl. fittings and connections [mm]



**OPTIONS**

Designation	Description	*	Art.-No.
<b>Access port with silicone plug</b>	back		
	10 mm	01	8012-1282
	30 mm	01	8012-0540
	50 mm	01	8012-0546
	left		
	10 mm	01	8012-1275
	30 mm	01	8012-1018
	50 mm	01	8012-1022
	right		
	10 mm	01	8012-1268
	30 mm	01	8012-1017
	50 mm	01	8012-1021
	top		
	10 mm	01	8012-1262
	30 mm	01	8012-0539
	50 mm	01	8012-0545
100 mm	01	8012-1029	
<b>Alarm function for overheating</b>	Switchable acoustic alarm, with adjustable limit value on the independent temperature safety device	-	8012-1635
<b>Analog output 4-20 mA</b>	for temperature values (output not adjustable)	02	8012-1623
<b>Calibration certificate, expanded</b>	for temperature; for extending the measurement in center of chamber to include another test temperature	-	8012-1115
<b>Calibration certificate, temperature</b>	for temperature, measurement in center of chamber at specified temperature	-	8012-1134
	temperature measurement incl. certificate and 27 measuring points at specified temperature	-	8012-1593
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	-	8012-1572
	temperature measurement incl. certificate, 9 measuring points at specified temperature	-	8012-1551
<b>Class 3.1 independent temperature safety device</b>	with visual alarm (DIN 12880)	-	8012-0985
<b>Clock</b>	battery-backed	-	8012-1640
<b>Door gasket</b>	made of FKM, silicone-free	-	8012-1008
<b>Door lock</b>	lockable door handle	-	8012-1664
<b>Ethernet interface</b>	for Multi Management Software APT-COM™	-	8012-1645
<b>Interior lighting</b>	with 15 W light bulb		
	120 V option model	-	8012-1631
	230/240 V option model	-	8012-1627
<b>Measurement of air exchange rate</b>	in accordance with ASTM D5374, definition and protocol according to ambient temperature	-	8012-0195
<b>Pt 100 temperature sensor</b>	additional flexible Pt 100, interior, for displaying the temperature on the unit display	-	8012-1619
<b>Viewing window and interior lighting</b>	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

**ACCESSORIES**

Designation	Description	*	Art.-No.
<b>APT-COM™ 4 BASIC-Edition</b>	for simple logging and documentation requirements with up to 5 networked units. version 4, BASIC edition	-	9053-0039

\* Notes › See last page

Designation	Description	*	Art.-No.
<b>APT-COM™ 4 GLP-Edition</b>	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
<b>APT-COM™ 4 PROFESSIONAL-Edition</b>	convenient unit and user management built on the BASIC edition. Suitable for networking up to 100 units. version 4, PROFESSIONAL edition	-	9053-0040
<b>Ethernet interface</b>	for Multi Management Software APT-COM™	-	8012-1645
<b>pH-neutral detergent</b>	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-0016
<b>Qualification documents</b>	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
	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 <sub>2</sub> , O <sub>2</sub> – or pressure, depending on unit		
	Digital in PDF format	-	7057-0005
	Hard copy inside folder	-	7007-0005
<b>Rack</b>	chrome plated	-	8012-2039
	stainless steel	-	6004-0158
<b>Rubber pads</b>	set anti-slip feet	-	8012-2030
<b>Shelf, perforated</b>	Stainless steel	-	6004-0190
<b>Table on castors</b>	stable cart, casters with locking brakes, dimensions: W 1,000 x D 800 x H 780 mm	-	9051-0018

\* Notes › See last page

## SERVICES

Designation	Description	*	Art.-No.
<b>Installation services</b>			
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)	05	DL10-0100
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming	05	DL10-0500
<b>Maintenance contracts</b>			
<b>Maintenance services</b>			
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	05	DL20-0710
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	05	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	05	DL20-0200
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	05	DL20-0810
<b>Calibration services</b>			
Calibration certificate, temperature	Calibration of one (1) test temperature specified by the user in center of chamber, including certificate	03, 04, 05	DL30-0101
	Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate	03, 04, 05	DL30-0102
Measurement of air exchange rate	including certificate (in accordance with ASTM D5374)	03, 04, 05	DL33-0000
Temperature measurement, 18 measuring points	Temperature measurement with 18 measuring points with a set value specified by the user, including certificate	03, 04, 05	DL30-0118
Temperature measurement, 27 measuring points	Temperature measurement with 27 measuring points with a set value specified by the user, including certificate	03, 04, 05	DL30-0127

\* Notes › See last page

<b>Designation</b>	<b>Description</b>	<b>*</b>	<b>Art.-No.</b>
Temperature measurement, 9 measuring points	Temperature measurement with 9 measuring points with a set value specified by the user, including certificate	03, 04, 05	DL30-0109
<b>Validation services</b>			
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder	05	DL40-0100
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder	05	DL44-0500
<b>Warranty service</b>			
1-year warranty extension	The warranty is extended by 1 year from the delivery date, wear parts are excluded	-	DL50-0010

\* 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 Sensor calibration is performed in an accredited calibration laboratory.
- 04 Calibration is performed according to the BINDER factory standard.
- 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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