

## 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

### IMPORTANT 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]	Power supply - unit fuse	Plug*	Version	Model version	Art.-No.
<b>Model ED 56</b>					
57	230 V 1~ 50/60 Hz -6,3 A	CEE 7/7	Standard	ED056-230V	9010-0333
	120 V 1~ 60 Hz -12,5 A	NEMA 5-15	Standard	ED056UL-120V	9010-0334

## TECHNICAL DATA

Data		
Designation	ED056-230V	ED056UL-120V
Article Number	9010-0333	9010-0334
Option model	Standard	Standard
Performance Data Temperature		
Temperature range	+5 °C above ambient temperature to 300 °C	+5 °C above ambient temperature to 300 °C
Temperature uniformity at 150°C	2.3 ± K	2.3 ± K
Temperature fluctuation at 150°C	0.4 ± K	0.4 ± K
Heating up time to 150°C	50 min	50 min
Recovery time after door was opened for 30 s at 150°C	19 min	19 min
Air change data		
Air change rate at 100°C	8 x/h	8 x/h
Electrical data		
Rated Voltage	230 V	120 V
Power frequency	50/60 Hz	60 Hz
Nominal power	1,05 kW	1,15 kW
Unit fuse	6,3 A	12,5 A
Phase (Nominal voltage)	1~	1~
Measures		
Interior volume	57 L	57 L
Net weight of the unit (empty)	39 kg	39 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	625 mm	625 mm
Depth net	565 mm	565 mm
Internal Dimensions		

Interior width	360 mm	360 mm
Interior height	420 mm	420 mm
Interior depth	380 mm	380 mm
Unit doors	1	1

#### Environment-specific data

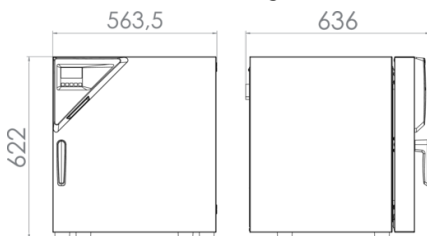
Energy consumption at 100°C	105 Wh/h	105 Wh/h
Energy consumption at 150°C	180 Wh/h	180 Wh/h

#### 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 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	ED 56	*	Art.-No.
	back			
	10 mm	•	01	8012-1282
	30 mm	•	01	8012-0540
	50 mm	•	01	8012-0546
	left			
Access port with silicone plug	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

Designation	Description	ED 56	*	Art.-No.
	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
Alarm function for overheating	switchable acoustic alarm, with adjustable limit value on the independent temperature safety device. Not in combination with the following option: Door with window	•	-	8012-1635
Analog output 4-20 mA	for temperature values (output not adjustable)	•	02	8012-1623
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	•	-	8012-1115
	for temperature, measurement in center of chamber at specified temperature	•	-	8012-1134
Calibration certificate, temperature	temperature measurement incl. certificate, 9 measuring points at specified temperature	•	-	8012-1551
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	•	-	8012-1572
	temperature measurement incl. certificate and 27 measuring points at specified temperature	•	-	8012-1593
Class 3.1 independent temperature safety device	with visual alarm (DIN 12880)	•	-	8012-0985
Clock	battery-backed	•	-	8012-1640
Door gasket	made of FKM, silicone-free	•	-	8012-1008
Door lock	lockable door handle	•	-	8012-1664
Ethernet interface	for Multi Management Software APT-COM™	•	-	8012-1645
	with 25 W light bulb			
Interior lighting	120 V option model	•	-	8012-1631
	with 27 W light bulb			
	230/240 V option model	•	-	8012-1627
Measurement of air exchange rate	in accordance with ASTM D5374, definition and protocol according to ambient temperature	•	-	8012-0195
Pt 100 temperature sensor	additional flexible Pt 100, interior, for displaying the temperature on the unit display	•	-	8012-1619
Viewing window and interior lighting	Viewing window (triple-glazed insulating glass) 240 x 240 mm in the door and interior lighting 15 W. Not in combination with the following option: Alarm function for overheating			
	230 V option model	•	-	8012-1058

Designation	Description	ED 56	*	Art.-No.
	viewing window (triple insulating glass) in door, 240 x 240 mm, and 15 W interior			
	120 V option model	•	-	8012-1059

## ACCESSORIES

Designation	Description	ED 56	*	Art.-No.
APT-COM™ 4 BASIC-Edition	for simple logging and documentation requirements with up to 5 networked units. version 4, BASIC edition	•	-	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
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 <sub>2</sub> , O <sub>2</sub> – 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 <sub>2</sub> , O <sub>2</sub> , pressure, depending on unit			
Rack	Digital in PDF format	•	-	7057-0001
	Hard copy inside folder	•	-	7007-0001
Rack	max. load per rack 30 kg			
	chrome plated	•	-	8012-2039
Rack	stainless steel	•	-	8012-2171
	Rubber pads	•	-	8012-2030
Shelf, perforated	max. load per rack 30 kg			
	Stainless steel	•	-	8012-2179
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	*	Art.-No.
<b>Calibration services</b>			
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
Measurement of air exchange rate	including certificate (in accordance with ASTM D5374)	–	DL33-0000
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
<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)	–	DL10-0100
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming	–	DL10-0500
<b>Maintenance contracts</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	–	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	–	DL20-0910
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
<b>Maintenance services</b>			
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
<b>Validation services</b>			
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder	–	DL40-0100
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder	–	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

- 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.

### **BINDER GmbH**

Tuttlingen, Germany  
TEL +49 7462 2005 0  
FAX +49 7462 2005 100  
info@binder-world.com  
www.binder-world.com

### **BINDER Inc.**

Bohemia, NY, USA  
TEL +1 631 224 4340  
FAX +1 631 224 4354  
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  
FAX +86 21 685 808 29  
china@binder-world.com  
www.binder-world.com

### **BINDER Asia Pacific (Hong Kong) Ltd.**

Kowloon, Hong Kong, P.R. China  
TEL +852 39070500  
FAX +852 39070507  
asia@binder-world.com  
www.binder-world.com