

# Model ED 400 | 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

- Uniform drying conditions thanks to APT.line™ technology
- · Identical test conditions throughout the chamber interior independent of sample size and quantity
- Outstanding thermal insulation saves operation costs



Model 400

#### **MAIN FEATURES**

- Temperature range: +5 °C above ambient temperature to +300 °C
- APT.line<sup>™</sup> preheating chamber technology
- Natural convection
- Adjustable exhaust air flap
- Controller with timer functions
- 2 chrome-plated racks
- Class 2 independent adjustable temperature safety device (DIN 12880) with visual alarm

#### **ORDERING INFORMATION**

Interior volume [L]	Voltage	Option model	Version	ArtNo.
	400 V 3~ ph 50/60 Hz	with RS 422	ED400-400V-I	9010-0075
400	208 V 3~ ph 60 Hz	with RS 422	ED400UL-208V-I	9010-0168

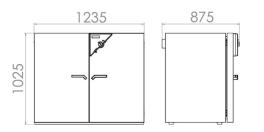


#### **TECHNICAL DATA**

Description	ED400-400V-I1	ED400UL-208V-I1
Article Number	9010-0075	9010-0168
Performance Data Temperature		
Temperature range +5 °C above ambient temperature to [°C]	300	300
Temperature variation at 150 °C [± K]	3	3
Temperature fluctuation at 150 °C [± K]	0.5	0.5
Heating-up time to 150 °C [min]	71	71
Recovery time after 30 seconds door open at 150 °C [min]	31	31
Air change data		
Air change (approx.) at 150 °C [x/h]	10	10
Electrical data		
Rated Voltage [V]	400	208
Power frequency [Hz]	50/60	60
Nominal power [kW]	3.4	3.4
Unit fuse [A]	3 x 16	3 x 16
Phase (Nominal voltage)	3~	3~
Measures		
Interior volume [L]	400	400
Net weight of the unit (empty) [kg]	125	125
Permitted load [kg]	90	90
Load per rack [kg]	35	35
Wall clearance back [mm]	160	160
Wall clearance sidewise [mm]	100	100
Internal Dimensions		
Width [mm]	1000	1000
Height [mm]	800	800
Depth [mm]	520	520
Doors		
Unit doors	2	2
Housing dimensions not incl. fittings and connections		
Width net [mm]	1235	1235
Height net [mm]	1025	1025
Depth net [mm]	765	765
Environment-specific data		
Energy consumption at 150 °C [Wh/h]	672	672
Fixtures		
Number of shelves (std./max.)	2/10	2/10

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 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. 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	*	ArtNo.
	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	8012-0537
	50 mm	01	8012-0542
	100 mm	01	8012-0722
ccess port with silicone lug	right		
lug	10 mm	01	8012-1268
	30 mm	01	8012-0536
	50 mm	01	8012-0541
	100 mm	01	8012-0721
	top		
	10 mm	01	8012-1262
	30 mm	01	8012-0539
	50 mm	01	8012-0545
	100 mm	01	8012-0547
	Switchable acoustic alarm, with adjustable limit value on the independent temperature safety device		
larm function for verheating	120/208 V option model	-	8012-1303
venicuting	230/400 V option model	-	8012-1299
nalog output 4-20 mA	for temperature values (output not adjustable)	-	8012-0430
alibration certificate, xpanded	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
alibration certificate,	temperature measurement incl. certificate and 27 measuring points at specified temperature	-	8012-1593
emperature	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
lass 3.1 independent emperature safety levice	with visual alarm (DIN 12880)	-	8012-0032
Door gasket	made of FKM, silicone-free	_	8012-0497
oor lock	lockable door handle	-	8012-1253
nner chamber, einforced	including 2 reinforced racks	_	8012-1730
Aeasurement of air xchange rate	in accordance with ASTM D5374, definition and protocol according to ambient temperature	_	8012-019
t 100 temperature ensor	additional flexible Pt 100, interior, with external connection incl. LEMO connector (3-pin)	-	8012-1173
	viewing window in each door, 290 x 470 mm, and 30 W interior lighting		
iewing window and Iterior lighting	208 V option model	-	8012-027
iterior ugituilg	400 V option model	-	8012-026

\* Notes > See last page

#### ACCESSORIES

Designation	Description	*	ArtNo.
APT-COM™ 4 BASIC- Edition	for simple logging and documentation requirements with up to 5 networked units.		
	version 4, BASIC edition	-	9053-0039

\* Notes > See last page

## BINDER

Designation	Description	*	ArtNo.
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.		
Eartion	version 4, GLP edition	-	9053-0042
APT-COM™ 4	convenient unit and user management built on the BASIC edition. Suitable for networking up to 100 units.		
PROFESSIONAL-Edition	version 4, PROFESSIONAL edition	-	9053-0040
pH-neutral detergent	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 <sub>2</sub> , O <sub>2</sub> , pressure, depending on unit		
	Digital in PDF format	-	7057-0001
Our life stimule summer to	Hard copy inside folder	-	7007-0001
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	-	7007-000
Desk	chrome plated	-	8012-2036
Rack	stainless steel	-	6004-001
Shelf, perforated	Stainless steel	-	6004-003
Table on castors	stable cart, casters with locking brakes, dimensions: W 1,300 x D 800 x H 780 mm	-	9051-0019

\* Notes > See last page

#### SERVICES

Designation	Description	*	ArtNo.
Installation services			
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
Maintenance contracts			
Maintenance services			
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
Calibration services			
	Calibration of one (1) test temperature specified by the user in center of chamber, including certificate	03, 04, 05	DL30-0101
Calibration certificate, temperature	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
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
* Notes > See last page			

\* Notes > See last page

#### Data Sheet Model ED 400

### BINDER

Description	*	ArtNo.
Execution of IQ/OQ in accordance with qualification folder	05	DL40-0100
Execution of IQ/OQ/PQ in accordance with qualification folder	05	DL44-0500
The warranty is extended by 1 year from the delivery date, wear parts are excluded	_	DL50-0010
	Execution of IQ/OQ in accordance with qualification folder Execution of IQ/OQ/PQ in accordance with qualification folder	Execution of IQ/OQ in accordance with qualification folder 05   Execution of IQ/OQ/PQ in accordance with qualification folder 05

\* Notes > See last page



#### NOTES

- Condensation may occur in the area around the access port. Access ports may be placed in custom locations for an additional charge. UL mark is not granted when this option is used. 01
- 02
- Sensor calibration is performed in an accredited calibration laboratory. 03
- Calibration is performed according to the BINDER factory standard. 04
- 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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