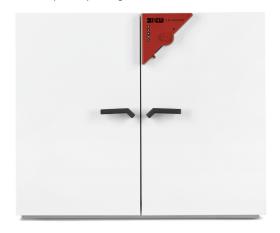


# Model BD 400 | Standard-Incubators with natural convection

The BINDER incubator of the BD series with natural convection is the specialist in long-term and stable continuous operation. This incubator is specially designed for gentle incubation of organisms, as well as conditioning of heat-sensitive media or microbiological heating.

### **BENEFITS**

- Safe and reproducible incubation even under high batch throughputs in long-term operation
- Disinfection routine at 100 °C
- Stable atmosphere by inner glass door







Model 400

#### IMPORTANT FEATURES

- Temperature range: +5°C above ambient temperature to +100°C
- APT.line™ preheating chamber technology
- · Natural convection
- Adjustable exhaust air flap
- Controller with timer functions

- Inner door made of tempered safety glass
- 2 chrome-plated racks
- Class 3.1 independent temperature safety device (DIN 12880) with visual temperature alarm
- Computer interface: RS 422

### ORDERING INFORMATION

Interior volume [L]	Power supply - unit fuse	Plug*	Version	Model version	ArtNo.
Model BD 400					
	230 V 1~ 50/60 Hz -12,5 A	CEE 7/7	Standard	BD400-230V	9010-0073
400	120 V 1~ 60 Hz -12,5 A	NEMA 5-15	Standard	BD400UL-120V	9010-0176



# TECHNICAL DATA

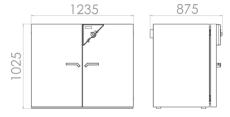
TECHNICAL DATA				
Data				
Designation	BD400-230V	BD400UL-120V		
Article Number	9010-0073	9010-0176		
Option model	Standard	Standard		
Performance Data Temperature				
Temperature range	+5 °C above ambient temperature to 100 °C	+5 °C above ambient temperature to 100 °C		
Temperature uniformity at 37°C	0.5 ± K	0.5 ± K		
Temperature fluctuation at 37°C	0.1 ± K	0.1 ± K		
Heating up time to 37°C	120 min	120 min		
Recovery time after door was opened for 30 s at 37°C	10 min	10 min		
Electrical data				
Rated Voltage	230 V	120 V		
Power frequency	50/60 Hz	60 Hz		
Nominal power	o,85 kW	o,85 kW		
Unit fuse	12,5 A	12,5 A		
Phase (Nominal voltage)	1~	1~		
Dimensions and weights				
Interior volume	400 L	400 L		
Net weight of the unit (empty)	135 kg	135 kg		
Load per rack	35 kg	35 kg		
Permitted load	90 kg	90 kg		
Wall clearance back	160 mm	160 mm		
Wall clearance sidewise	100 mm	100 mm		
Housing dimensions not incl. fittings and connections				
Width net	1,235 mm	1,235 mm		
Height net	1,025 mm	1,025 mm		
Depth net	765 mm	765 mm		
Internal Dimensions				
Interior width	1,000 mm	1,000 mm		
Interior height	800 mm	800 mm		



Interior depth	500 mm	500 mm		
Unit doors	2	2		
Environment-specific data				
Energy consumption at 37°C	56 Wh/h	56 Wh/h		
Fixtures				
Tixtures				

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	BD 400	*	ArtNo.
	back			
	10 mm	•	01	8012-0390
	30 mm	•	01	8012-0397
	50 mm	•	01	8012-0399
	left			
	10 mm	•	01	8012-0388
	30 mm	•	01	8012-0047
ccess port with silicone plug	50 mm	•	01	8012-0051
	right			
	10 mm	•	01	8012-0387
	30 mm	•	01	8012-0046
	50 mm	•	01	8012-0050
	top			
	10 mm	•	01	8012-0386
	30 mm	•	01	8012-0045



Designation	Description	BD 400	*	ArtNo.
	50 mm	•	01	8012-0049
	100 mm	•	01	8012-0053
	Switchable acoustic alarm, with adjustable limit value on the independent temperature safety device			
Alarm function for overheating	120 V option model	•	-	8012-0470
	230 V option model	•	-	8012-0469
Analog output 4-20 mA	for temperature values (output not adjustable)	•	-	8012-0432
Calibration certificate,	for temperature; for extending the measurement in center of chamber to include another test temperature	•	-	8012-1110
Calibration certificate, temperature	for temperature, measurement in center of chamber at specified temperature	•	-	8012-1129
	temperature measurement incl. certificate, 9 measuring points at specified temperature	•	-	8012-0915
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	•	-	8012-0918
	temperature measurement incl. certificate and 27 measuring points at specified temperature	•	-	8012-0921
Door lock	lockable door handle	•	-	8012-0319
Inner chamber, reinforced	including 2 reinforced racks	•	-	8012-1731
Pt 100 temperature sensor	additional flexible Pt 100, interior, with external connection incl. LEMO connector (3-pin)	•	-	8012-0115

# ACCESSORIES

Designation	Description		*	ArtNo.
	for simple logging and documentation requirements with up to 5 networked units.			
APT-COM™ 4 BASIC-Edition	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
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	•	-	8012-2250
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



Designation	Description		*	ArtNo.
	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, $\mathrm{CO_2}$ , $\mathrm{O_2}$ , pressure, depending on unit				
Digital in PDF format		•	-	7057-0001
	Hard copy inside folder	•	-	7007-0001
Dools	chrome plated	•	-	8012-2036
Rack	stainless steel	•	-	8012-2159
Rubber pads	set anti-slip feet	•	-	8012-2030
Shelf, perforated	Stainless steel	•	-	8012-2162
Table on castors	stable cart, casters with locking brakes, dimensions: W 1,300 x D 800 x H 780 mm	•	-	9051-0019

## **SERVICES**

Designation	Description	*	ArtNo.			
Calibration services						
Calibration certificate, temperature	Calibration of one (1) test temperature specified by the user in center of chamber, including certificate	-	DL30-0110			
Campianon cermicate, temperature	Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate	-	DL30-0102			
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			
Installation services	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)	-	DL10-0100			
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming	-	DL10-0500			
Maintenance contracts	Maintenance contracts					
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	-	DL20-0720			
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	-	DL20-0915			



Designation	Description	*	ArtNo.
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	-	DL20-0815
Maintenance services			
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	-	DL20-0601
Validation services			
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
Warranty service			
1-year warranty extension	The warranty is extended by 1 year from the delivery date, wear parts are excluded	_	DL50-0010

# BINDER Best conditions for your success

### **NOTES**

O1 Condensation may occur in the area around the access port. Access ports may be placed in custom locations for an additional charge.

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