Model BD 400 | Standard-Incubators with gravity convection

The BINDER incubator of the BD series with gravity 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



Model 400

IMPORTANT FEATURES

- Temperature range: room temperature plus +5 °C to +100 °C
- APT.line™ preheating chamber technology
- Gravity 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		Power supply - unit fuse	Plug*	Version	Model version	Art.-No.
[cu.ft.]	[L]					
Model BD 400						
14	400	230 V 1~ 50/60 Hz -12,5 A	CEE 7/7	Standard	BD400-230V	9010-0073
		120 V 1~ 60 Hz -12,5 A	NEMA 5-15	Standard	BD400UL-120V	9010-0176

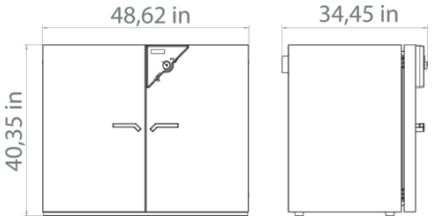
TECHNICAL DATA

Data		
Article Number	9010-0073	9010-0176
Designation	BD400-230V	BD400UL-120V
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	0,85 kW	0,85 kW
Unit fuse	12,5 A	12,5 A
Phase (Nominal voltage)	1~	1~
Dimensions and weights		
Interior volume	14 cu.ft.	14 cu.ft.
Net weight of the unit (empty)	298 lbs	298 lbs
Load per rack	77 lbs	77 lbs
Permitted load	198 lbs	198 lbs
Wall clearance back	6,3 in	6,3 in
Wall clearance sidewise	3,94 in	3,94 in
Housing dimensions not incl. fittings and connections		
Width net	48.62 in	48.62 in
Height net	40.35 in	40.35 in
Depth net	30.12 in	30.12 in
Internal Dimensions		
Interior width	39.37 in	39.37 in
Interior height	31.5 in	31.5 in

Interior depth	19.69 in	19.69 in
Unit doors	2	2
Environment-specific data		
Energy consumption at 37°C	56 Wh/h	56 Wh/h
Fixtures		
Number of shelves (std./max.)	2/9	2/9

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	*	Art.-No.
	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
Access 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	*	Art.-No.
	50 mm	•	01	8012-0049
	100 mm	•	01	8012-0053
Alarm function for overheating	Switchable acoustic alarm, with adjustable limit value on the independent temperature safety device			
	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, expanded	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	BD 400	*	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
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	•	-	8012-2250
Qualification documents IQ/OQ	IQ/OQ documents digital in PDF format – supporting documents for validation consisting of: IQ/OQ checklists, comprehensive unit documentation covering: temperature. Excluded: Document execution is separate			
	temperature. Excluded: Document execution is separate	•	-	7057-0010

Designation	Description	BD 400	*	Art.-No.
Qualification documents IQ/ OQ/PQ	IQ/OQ/PQ documents digital in PDF format – supporting documents for validation customizied to customer requirements, PQ section added to the qualification folder IQ/OQ; supporting documents for validation consisting of: IQ/OQ checklists, comprehensive unit documentation covering: temperature values. Excluded: Document execution is separate			
	temperature values. Excluded: Document execution is separate	•	-	7057-0016
Rack	chrome plated	•	-	8012-2036
	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	*	Art.-No.
Calibration services			
Temperature calibration	Calibration of one (1) test temperature specified by the user in center of chamber, including certificate Travel to be quoted separate.	05	DL30-0110
	Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate Travel to be quoted separate.	05	DL30-0102
Temperature measurement, 9 measuring points	Temperature measurement with 9 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 3 shelves are required.	05	DL30-0109
Temperature measurement, 18 measuring points	Temperature measurement with 18 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 2 shelves are required.	05	DL30-0118
Temperature measurement, 27 measuring points	Temperature measurement with 27 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 3 shelves are required.	05	DL30-0127
Installation services			
Unit installation	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) Travel to be quoted as separate.	05	DL10-0160
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming. Travel to be quoted as separate Limited to 3 hours.	05	DL10-0540
Maintenance services			
BRONZE 3-year maintenance contract	Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate. 10% Discount on Spare Parts and Labor for any additional Services needed Wear + tear parts to be purchased or billed to customer. Travel to be quoted as separate.	05	DL20-0720

Designation	Description	*	Art.-No.
GOLD 3-year maintenance contract	Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate of Temperature. 25% Discount on Spare Parts and Labor for any additional Services needed. One additional courtesy visit per year can be used for service visit or operator. Wear + tear parts to be purchased or billed to customer. Travel to be quoted separate.	05	DL20-0915
Preventive maintenance	One-off maintenance service in accordance with maintenance schedule. Visual inspection of mechanical and electrical components, testing of all key functions. Checking a test temperature specified by the user in center of usable space without certificate. Wear + tear parts need to be purchased or billed to customer. Travel to be quoted as separate.	05	DL20-0601
SILVER 3-year maintenance contract	Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate 15% Discount on Spare Parts and Labor for any additional Services needed One additional courtesy visit per year can be used for service visit or operator training. Wear + tear parts to be purchased or billed to customer. Travel to be quoted separate.	05	DL20-0815
Validation services			
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder. Travel to be quoted separate.	05	DL40-0100
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder. Travel to be quoted separate.	05	DL44-0500
Warranty service			
1-year warranty extension	The warranty is extended by 1 year from the delivery date, wear parts are excluded	05	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.

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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